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MARCH, 1929

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(Special Article)

Progress in Venereal Disease Control for 1928

WALTER CLARKE, M.A., M.B., Ch.B., L.R.C.P., Edinburgh

DIRECTOR, DIVISION OF MEDICAL MEASURES, AMERICAN SOCIAL HYGIENE ASSOCIATION, INC.
New York

Osler considered syphilis the third great killing disease. He called it "the great imitator," because it masquerades under the symptoms of so many other diseases. The Metropolitan Life Insurance Company's recent public appeal for greater effort in combating this disease began with a statement that syphilis kills two out of every thirteen people. Dr. Ray Lyman Wilbur, when president of the American Medical Association, said in his inaugural address, "When we can keep the spirochaetes of syphilis out of the body of every new-born babe, we shall have added enough to human life and happiness to heal the wounds of the Great War."

The Army venereal disease rates have been lowered from more than 180 men per 1,000 to less than 47 per 1,000, since determined efforts have been made to control this group of infections. Dr. William F. Snow, President of the National Health Council, and General Director of the American Social Hygiene Association, has pointed out that the rate of syphilis can be lowered in civil life even to a greater extent by concerted and continuous action of community authorities and the people.

The American Social Hygiene Association and affiliated agencies are doing much to bring about these results; but their efforts should be supplemented. The United States Public Health Service, the many state and city health officials, the rank and file of the medical profession together with the voluntary health agencies have made excellent progress in the past decade, but greater efforts are necessary if the work is to continue

on a high plane. Great gains have resulted from successful research. There is still need for improvement in the technique of diagnosis and treatment. The development of more satisfactory means of inducing infected persons to seek treatment and to continue it under physicians' care until cured is essential. Information is required on the number and distribution of syphilis cases. Studies and demonstrations of methods for reducing the costs of diagnosis and treatment are important.

In addition progress in the next ten years will be dependent upon further scientific research on the life of the spirochaete of syphilis, its modes of attacking the human body, and the latter's mechanisms of defense. Additional studies in clinics and in laboratories are needed. New facts are yet to be discovered, which may revolutionize both the diagnosis and treatment of syphilis. The future seems promising for the discovery of some method of producing immunity from syphilis, or at least of aiding the body in its battles to prevent the development of such serious manifestations of syphilis as tabes dorsalis, aortitis, and dementia paralytica.

So far as possible the American Social Hygiene Association and the United States Public Health Service have endeavored to bring about correlation of activities and encourage team work through joint investigations. But without money to encourage research or to provide necessary trained assistance, such work has perforce been somewhat sporadic.

Last year, 1928, a group of public spirited laymen, acting through Dr. W. J. M. A. Maloney of New York and

the officers of the American Social Hygiene Association, invited a group of syphilologists and investigators interested in research in syphilis, to meet for the purpose of organizing a Committee on Research in Syphilis. This Committee is now an incorporated body and is receiving applications for assistance in this field of endeavor.

While the importance of syphilis is well known to the medical profession, large funds for the systematic study of the disease, with the exception of the government appropriations made during the war, and continued for a short time thereafter, have been exceedingly difficult to obtain. The Committee on Research in Syphilis will develop research in both the clinical and laboratory ascribe annually, through its sub-committees, the funds made available by the group of donors, to subsidize and pects of the disease.

It is the purpose of the Committee to expend the sums placed at its disposal in the development of a constructive program of research, with carefully planned activities and selected cooperators, and upon the stimulation, through grants, of researches already in progress or about to be undertaken.

The organization of the Committee permits of the calling of experts in special fields of syphilology to meet with the Committee in conference on questions both of general policy and expenditures to be recommended.

An evidence of the timeliness and usefulness of the Committee lies in the fact that the Health Section of the League of Nations welcomes it, and that plans have been made for cooperation in surveys of the treatment of syphilis in a series of selected countries. It is hoped that out of these surveys there may develop important international clinical and laboratory studies of the most effective diagnostic and therapeutic methods in use throughout the world. A meeting of experts was convened on October 8th, 1928, in Geneva by the League of Nations to prepare a plan of study of the treatment of syphilis, for submission to the Health Committee. In their report the experts state that they "have been struck by the fact that, in the fight against syphilis, the results obtained have not been such as the almost universally recognized progress of syphilis therapy would give reason to expect." The explanation which suggested itself, and which has indeed been confirmed by various experts, is that "new discoveries in the matter of syphilis diagnosis and therapy are not applied everywhere in the right way and with such promptness as would be desirable, and that a uniform generally recognized method of treatment does not exist as yet."

The experts, therefore, propose that a careful inquiry involving the scrutiny of records of some 60,000 cases in clinics, dispensaries, etc., in different countries should be undertaken so as to enable the various methods in use to be compared on the broadest possible basis. They emphasize that this inquiry should keep in view the two purposes to which every treatment of syphilis should be directed, namely, the suppression of infectivity as quickly and as effectively as possible, and the protection of the patient from the severe late effects of syphilis.

A questionnaire was drawn up and the general lines suggested on which this inquiry should proceed. The material from the various clinics prepared to participate is to be sent to the Health Section of the League Secretariat, acting as central bureau of this inquiry, on cards relating to individual patients. On the basis of this material, the bureau will then study the various questions arising in connection with the treatment of syphilis and its results.

The importance of providing theoretical and practical training of medical students in syphilology, culminating in an official examination, was emphasized. The experts

further recommended that continuation courses in syphilology should be facilitated in every way for general practitioners and medical officers of health, and officers of the Army, Navy and industrial organizations.

For the first time we are beginning to secure a sound, scientific foundation of knowledge regarding the prevalence of the venereal diseases. Studies into the prevalence of syphilis and gonorrhea have been made by the United States Public Health Service, the American Social Hygiene Association, and various state and local agencies in several urban and rural areas. Great cosmopolitan districts, such as New York City, St. Louis, Detroit, and Cleveland, and rural communities in Kansas, Tennessee, Virginia, and New York have been studied. These studies have shown the number of cases of syphilis and gonorrhea under treatment by private physicians, by clinics, and in hospitals and other institutions, on a certain given day, and have indicated the proportion of recent to old infections, and the ratio of male and female cases.

It is not possible to give the figures for each of these studies but a few statistics may be quoted from two of the most recent of the studies, viz., Cleveland and Tennessee. In Cleveland 67 per cent of cases of gonorrhea were under treatment by private practitioners, and 33 per cent in public clinics. Fifty per cent of cases of syphilis were under treatment by private practitioners, and 50 per cent in public clinics. Of the cases of syphilis in males, 39 per cent were in the early stages, and 61 per cent in the late stages, while in females 34 per cent were early, and 66 per cent late. Of cases of gonorrhea among males 47 per cent were acute and 53 per cent chronic, and among females 35 per cent were acute, and 65 per cent chronic. The rates per 1,000 population were—for gonorrhea in males 7.57, and females 2.81, while the syphilis rates per 1,000 population were—for males 7.16, and females 4.81.

It is interesting to compare the total rates for gonorrhea and syphilis, per 1,000 in Detroit, Cleveland and in nine smaller cities of the United States. They were as follows: Detroit, 13.47; Cleveland, 11.30; nine smaller cities, 14.38.

The figures for Tennessee have been separated as to negro and white persons. The prevalence of gonorrhea and syphilis among the white and colored population of the part of Tennessee which was studied is as follows: Of cases of gonorrhea among males 4.80 were white, and 6.53 were colored. Of cases of syphilis among males, 4.12 were white, and 9.00 were colored. Of cases of gonorrhea among females, 1.76 were white, and 1.85 were colored. Of cases of syphilis among females, 2.12 were white, and 7.00 were colored.

The Tennessee study showed that in the area surveyed private physicians had under their care the largest percentage of acute gonorrhea and the lowest percentage of cases of late syphilis. In three of the Tennessee cities studied, from 81 to 89 per cent of the acute cases of gonorrhea were under treatment in private practice, while the percentage of cases of early syphilis under treatment by private practitioners was 76 per cent in Memphis, 65 per cent in Knoxville, and 40 per cent in Chattanooga and Nashville. In Nashville, Memphis, and Chattanooga, the percentages of late cases of syphilis ranged from 34 to 40 per cent in private practice, and from 60 to 66 per cent in public clinics.

The following figures giving the percentage of total numbers of cases of venereal diseases under treatment by private practitioners are of interest. In cases of acute gonorrhea among males 91.46 were white, and 52.94 were colored; among females, 89.11 were white, and 64.71 were colored. In cases of chronic gonorrhea

among males, 85.20 were white, and 32.72 were colored; among females 86.28 were white, and 64.89 were colored. In cases of early syphilis among males, 82.19 were white, and 30.41 were colored; among females, 59.44 were white, and 35.55 were colored. In cases of late syphilis among males, 69.29 were white, and 25.82 were colored; among females, 57.36 were white, and 14.22 were colored. Approximately in Tennessee, 20 per cent of the population are of the colored race.

During the past year, a most valuable piece of co-operation has engaged the attention of the American Social Hygiene Association, the National Tuberculosis Association, and various local associations in the State of Oregon, viz., a health survey of the Indians of the Klamath Falls Reservation. Some 460 Indians, men, women, and children, on the reservation were examined. It was expected that tuberculosis would be found to be a serious problem among them, and this proved to be the case. It was less expected, however, that the venereal diseases would rank with tuberculosis in prevalence. Actual physical examination of the Indians on this reservation showed that about nine per cent appeared to be tuberculous, while about six per cent gave some evidence of syphilis, and one and one-half per cent of gonococcal infection. But ruling out all cases in which there were elements of doubt, 4.8 per cent of the Indians had definitely diagnosed venereal disease, and 4.3 per cent were definite tuberculous.

In cooperation with the United States Public Health Service, the Welfare Council of New York City, and the New York Tuberculosis and Health Association, the American Social Hygiene Association has engaged in a study of the incidence of venereal diseases among seamen entering the port of New York. More than one thousand seamen were interviewed, and their case histories carefully taken by trained investigators. An analysis of these case histories is being made at the present time, and information as to the facilities in the port of New York for the treatment of venereally infected seamen, and the policy and practice of the steamship lines in dealing with them, is being gathered. In addition, facts regarding the treatment of American seamen in foreign ports are being collected. The whole problem of the care and treatment of seamen suffering from venereal diseases has for some time engaged the attention of the Union Internationale Contre le Peril Venerien, as well as the League of Red Cross Societies, both of which organizations have headquarters in Paris. The International Labor Office of the League of Nations also has been much interested and a series of meetings sponsored by these international bodies is to be held in Geneva during the summer of 1929, for the formulation and promotion of a more comprehensive program for dealing with venereal diseases among seamen. It is hoped that a report of the studies made in the United States may be presented to these meetings.

Quackery and charlatanism have always been interesting subjects for investigation and prosecution. During the past year the American Social Hygiene Association has given the elusive practitioners of fraudulent medicine its serious attention, in the hope of "making the democracy unsafe for quackery." Studies of illegal and unethical practices by charlatans and druggists have been made in a number of cities and the attention of the law enforcement authorities having jurisdiction has been called to numerous cases. It is a characteristic of the "quack" that he preys upon the ignorant and unsuspecting, and it has been found that the foreign-language newspapers published in large cities provide him with suitable means of obtaining victims. Some of the procedures have an element of cleverness worthy of a better

cause. For example, one establishment advertised itself to be a "Haven of refuge and redress for persons who have been fleeced by quacks." The venereal diseases, unfortunately, have many elements of advantage for charlatanism, because of the desire of most patients for secrecy, and sometimes their unwillingness to confide in their own family physician. More vigorous and constant measures must be adopted in most communities, if the "quack" is to be suppressed. The legal division and the medical division of the American Social Hygiene Association are joining forces to make life uneasy for "quacks" and charlatans.

The Division of Legal and Protective Measures of the American Social Hygiene Association has during 1928 continued its attack on organized prostitution throughout the United States. A glimpse at the Association's work in these fields shows:

(a) Studies of vice conditions were made in 24 cities of two states at the request of their respective state health departments. In addition, 44 investigations were made in 34 cities throughout the United States in cooperation with and on invitations from local committees or groups interested in legal and protective measures, and special investigations were made in California, Illinois, Louisiana, Pennsylvania, Rhode Island, and Texas. At least one city in every state in the Union was visited in order that a comprehensive nationwide picture of conditions might be obtained.

(b) In 1926 an intensive study of prostitution was carried on in Detroit. Subsequent to the completion of this, new laws were passed and special efforts by the police and courts were begun and have been consistently carried out to suppress commercialized prostitution. In order to evaluate the progress made, another study of commercialized prostitution conditions was made in 1928. This study showed a marked improvement in conditions as mentioned previously. Two studies of venereal disease incidence were made in Detroit by the Association at the same time as the studies of prostitution. A preliminary tabulation indicates a tangible reduction in cases under treatment even though the proportion of doctors treating venereal diseases has increased. In order to complete the records of all data relating to sex offenses over a period of four years, a study of the records of the police department and the courts has been undertaken in the belief that information will be obtained which will answer once and for all the many questions raised by the proponents of a kind of system of regulation of prostitution and periodic medical examination of prostitutes.

(c) Much time and effort were expended by the Association staff in preparing a digest of social hygiene laws of 54 nations for the Social Section of the League of Nations. This information was followed up in March by a visit of the director of the legal division of the Association to Geneva to attend the meetings of the Committee on Traffic in Women and Children and the Child Welfare Committee of the League of Nations. The Director took part in the deliberations of both Committees. The digest of laws will eventually be published by the League of Nations.

(d) In cooperation with The Welfare Council of New York City, the Association made an analysis of over 1,600 questionnaires filled in by Brooklyn school girls in an effort to gather information regarding the home life and leisure-time activities of adolescent girls with special emphasis on the question of whether or not the home is breaking down.

Ultimate progress in the social hygiene field depends largely upon educational efforts.

The demand for lectures and study courses has grown

to so great an extent that the American Social Hygiene Association has had to select its broadest opportunities more than ever before. The following summary is based on returns from January 1st to December 1, 1928:

(a) 450 universities, colleges and normal schools were added to the 202 institutions previously dealt with in the joint study of materials and methods for integrating social hygiene education in their curricula.

(b) 633 lectures by Association staff members were given to 86,000 students and faculty members in 141 colleges.

(c) 263 addresses were given to 53,000 students in 145 high schools.

(d) 21 study courses of from 10 days to six weeks each were conducted in cooperation with recognized educational institutions, 13 being for teachers (11 credit courses), 4 for parents, 3 for religious leaders and one for professional social hygiene workers. (In a number of summer schools enrollments in the social hygiene courses exceeded those of any other course).

(e) 50 school superintendents cooperated in studying a social hygiene outline for Junior High Schools, the resulting outline having been printed for experimental use.

(f) 256 Parent-Teacher groups in 22 states were addressed, the total attendance being upward of 32,000. In further cooperation with the National Congress of Parents and Teachers, the Association participated in one national and 15 state conventions; supplied 36 exhibits to state and district conventions; aided state and local Parent-Teacher groups in developing their social hygiene programs through correspondence, conferences, and the provision of specially prepared programs and literature.

(g) In cooperation with the Federal Council of Churches the Association addressed 37 church groups in 43 talks with an attendance of 10,170; organized a number of study groups of parents and church leaders, using as text Galloway's "Parenthood and the Character-Training of Children;" conducted courses and conferences in the summer school of the New Jersey Council of Religious Education; gave a series of lectures in the summer conference of the Southern Methodist Church; conducted a course of ten lectures for church leaders at the New York Chautauqua.

(h) A series of articles on social hygiene was furnished to religious publications and one issue of the Federation's Information Service was devoted to an exposition of the social hygiene program.

In addition to these special, legal, educational, and medical activities, the American Social Hygiene Association has continued the publication of the *Journal of Social Hygiene*, the demonstration of its motion pictures, the organization of regional and national conferences, the distribution of literature, and the display of exhibits. Staff members have traveled throughout the length and breadth of the country studying, advising, and encouraging all branches of the social hygiene movement.

Visitors from all parts of the United States and from many foreign countries have called at the offices of the Association for information and advice regarding all aspects of social hygiene work, and considerable time of the staff of the Association has been given to explaining and demonstrating the methods which have been developed in the United States for combating the venereal diseases, for suppressing commercialized prostitution, and for promoting sound ideals of sex, through educational measures.

The General Director of the American Social Hygiene Association, Doctor William F. Snow, has continued as

President of the Special Body of Experts on the Traffic in Women and Children, appointed by the League of Nations. Major Bascom Johnson is director of investigations for this body. The work of the Experts has been carried further during the year, and Part II of the Report on the Conditions of the Traffic in Women and Children throughout the world has been published by the League of Nations. Considerable attention has also been given to proposals for further investigations by this body.

A word may be said in conclusion regarding plans of the Association for the immediate future. The lines of work previously tested and found valuable will be continued. The following is a summary, by divisions, of the program for 1929:

PROGRAM OF THE DIVISION OF MEDICAL MEASURES

1. Promotion of measures for reduction of venereal diseases in childhood and infancy.

A special effort will be made during 1929 to bring to the attention of the public, and especially to hospital and clinic managers, the great need and the great possibilities of work on congenital syphilis. By proper treatment congenital syphilis can be prevented. Attention will be focused on the fact that if the pregnant syphilitic woman is brought under proper treatment before the end of the fifth month a child free from syphilis can be assured.

2. Extension of aid to general practitioners in keeping abreast of modern methods of diagnosis and treatment of the venereal diseases, through cooperation with county, state, and national medical organizations. Promotion of participation by physicians, nurses, dentists, and druggists in combating the venereal diseases.

3. Studies of "case finding" and "case holding" in cooperation with venereal divisions of the federal, state, and local health departments.

4. Continuation of studies into the prevalence of the venereal diseases; studies into the problems of their treatment by unqualified persons; participation in social hygiene surveys, and the preparation of such publications, exhibits, films, and addresses as may be required for the promotion of the measures mentioned above.

PROGRAM OF THE DIVISION OF LEGAL AND PROTECTIVE MEASURES

1. Assistance to national, state, and local agencies in vice investigations and promotion of law enforcement work against prostitution and interstate traffic in women and children.

2. Cooperation in securing the adoption of needed laws and ordinances adequately adapted to moral, medical, and social interests of the states and communities.

3. Revision of the Legislation Manual.

4. Special investigation service and studies in selected states in cooperation with state and local authorities and law enforcement committees, and with the United States Army, Navy, and Public Health Service.

5. Participation in special cooperative study projects with the New York Committee of Fourteen and the New York Tuberculosis and Health Association.

6. Lecture and field service and preparation of special articles in promotion of recognized measures for the prevention of sex delinquency and rehabilitation of delinquents.

7. Promotion of public interest in the extension and improvement of the work of policewomen, probation officers, visiting teachers, and private protective social agencies; in the securing and maintaining of desirable recreational opportunities; and in the development of other important factors in minimizing sexual promiscuity.

8. Cooperation in suppression of obscene and other objectionable literature in the social hygiene field.

PROGRAM OF THE DIVISION OF EDUCATIONAL MEASURES

1. Provision of lecture service for universities, colleges and normal schools, summer schools, and public schools and community groups, cooperating organizations, and conventions.

2. Further development of the joint study with social hygiene committees in universities and colleges.

3. Continuing development of social hygiene education in cooperation with the local, state, national and international Parent-Teacher organizations through participation in their meetings and conventions, lecture and counseling service, institutes, and preparation and distribution of educational programs and other materials.

4. Promotion of teacher-training courses in normal schools, summer schools, schools of education, and college educational departments.

5. Continued promotion of social hygiene education in cooperation with the Federal Council of Churches, local church federations, schools of religion, denominational boards, clergy, leaders in other religious agencies, and the religious press, through institutes, conferences, lectures, articles and continuation programs.

6. Cooperation in social hygiene educational activities of other national organizations through study groups, special programs and conferences, and materials.

7. Continuation of social hygiene work among Negroes through their colleges and other organizations, and through organized interracial groups.

8. Additional teaching projects in sex education in cooperation with several selected school and university groups, and the publication of results.

9. Cooperation with the United States Public Health Service in preparing materials on sex education.

10. Preparation of pamphlets, articles, special programs, and other educational materials.

PROGRAM OF THE DIVISION OF PUBLIC INFORMATION

1. General information service through correspondence, public lectures, motion pictures, exhibits, convention and conference programs, and distribution of pamphlets, posters, and lecture aids.

2. Publication of the monthly *Journal of Social Hygiene* including advance prints, reprints, and uses of the material in other ways.

3. Preparation of special articles and news items for magazines, newspapers, journals, house organs, and review columns.

4. Maintenance of active cooperation with state and local social hygiene councils, societies, and committees of other associations through field trips and correspondence.

5. Cooperation with libraries and publishers in securing satisfactory books and reference material on social hygiene.

6. Publication of semi-monthly "News" for members.

7. Development of regional conferences in the Pacific Coast area.

8. Cooperation in further development of state social hygiene councils in Missouri, South Dakota, and Massachusetts.

9. Organizing work for a social hygiene survey in one additional city to be selected on the basis of preliminary studies now being made.

10. Revisions of and additions to stock pamphlets, exhibits, and films which studies of the past year have indicated.

OTHER ASSOCIATION ACTIVITIES

1. Annual Meeting and other direct activities of the Association's membership.

2. General Advisory Committee studies and reports.

3. Studies and organization work of the Finance Committee and Committee on Membership.

4. Activities of the Committee on States Relations and Activities, Committee on International Relations and Activities, and other standing committees.

5. Inquiries and special work conducted under the direct supervision of the Executive Committee or the Board of Directors.

Health Examinations Advise Yearly for Persons Over Forty

After the age of forty years the human body, instead of continuing to develop in strength and energy, begins to degenerate, and therefore it is of the highest importance that persons reaching that age should without fail have a complete physical examination once or twice a year, the Division of Public Health Education, New York State Department of Health, advises.

In a statement received by the United States Public Health Service October 2, the Director called attention to the number of deaths occurring in men about 45 years of age, attributed to "stroke," apoplexy, cerebral hemorrhage, or some other term, "but all indicating that an artery gave way, that a blood clot formed and that paralysis or death resulted." The truth of the saying that a man is as old as his arteries, he added, is demonstrated almost daily. The full text of the statement follows:

The truth of the saying that a man is as old as his arteries, is demonstrated almost daily in the newspapers by items recording the sudden illness or death of some prominent man. The cause is variously stated as a stroke, apoplexy, cerebral hemorrhage, or some other term but all indicating that an artery gave way, that a blood clot formed and that paralysis or death resulted.

Generally the newspaper item records the fact that the man so stricken was of middle age, prominent and frequently at or near the height of his career. Two instances of this kind have occurred recently. Shortly before the national conventions a man prominently mentioned as a candidate for the presidency died suddenly from a stroke just before he was to make a speech in his own home town. A few weeks ago, a man, who was very active in public affairs in New York State also came to the sudden end of his human existence.

It seems a pity that people of great use to the world should be cut down at a time of life when they are of most service. The purpose of this talk is to emphasize that in the vast majority of instances such deaths are needless if persons of middle age will only observe a few simple rules.

Note that most of the persons who are so stricken are usually 45 or over, frequently overweight and under the strain either of public life or business connections which require work under pressure, attendance at banquets or late gatherings and, in general, irregular hours for eating, sleeping and exercise, thus breaking three of the most important rules for maintaining a healthy body.

We may not want to believe it, but the fact remains that after 40 with most people, the human body, instead of continuing to develop in strength and energy, begins to degenerate. It is therefore of the highest importance that persons reaching that age, if they haven't already formed the beneficial habit, should without fail have a complete physical examination once, or better, twice a year by a reliable physician. Such an examination should include not only the heart and lungs but blood pressure and all the other tests included in the standard health examination blank.

But how will such a procedure protect a person from hardening of the arteries, from heart disease and the other degenerative diseases of middle age. The answer is simple. Just as it is easy to blow out a match, but hard to stop a conflagration, so is it a relatively simple matter at the outset to check the insidious beginnings of these diseases through removing their cause, but it is a difficult if not an impossible task to effect a cure once the condition has progressed to any great extent.

In 1927 only four cases of small-pox occurred in Germany. These had all been introduced from foreign countries. In the same year no fewer than 14,800 cases were notified in England and Wales.—*Brit. M. J.*, 1928, ii, 552.

International Legislative Anthropology Including Methods of Study and Schedules for Estimating Legislative Ability

By DR. ARTHUR MACDONALD
Washington, D. C.

While measuring a United States Senator he said to me: "I thought you used to study criminals!" "Yes, Senator," I answered, "but allow me to explain. You have a delapidated table, and also a mahogany table which you desire to use in your room; you take a measuring rod to find the amount of space required, but you use the same measuring rod for both tables. Senator, I am now studying mahogany tables."

Thus the same methods of study are employed for both normal and abnormal, otherwise there would be no adequate method of distinguishing between them. Whether an individual be sane or insane, talented or imbecil, genius or idiot, virtuous or criminal, a scientific study requires uniformity of method for everyone. But, it is to be understood, and cannot be repeated too often, that in all scientific study of persons, or of legislative or other human organizations, under no circumstances, should names be mentioned or referred to in any way, so as to suggest the identity of any one; because science has no use for names of personalities. No one, therefore, need hesitate nor fear of anything becoming known about himself or herself. It might be said, however, that almost all, if not all, the facts gained by such study, could do little or no injury to any one if known. But this is no reason at all why the strictest privacy should not be observed. If any member of a parliament or legislature, ranking low, should desire to see his own record, it might make him more active, careful and earnest in all his legislative work.

Scope of Legislative Anthropology.

To explain the general scope of legislative anthropology in a practical way, we will give a copy of a letter recently sent to the Prime Ministers of leading countries of the world¹:

Excellency:

I beg leave to call your Excellency's attention to enclosures, indicating a new direction in political science, which might be called legislative anthropology. I trust your Excellency will encourage similar work in your Parliament, so that its members will consent to have your anthropologists take measurements and medical specialists conduct examinations of them without, of course, revealing names, as science has no use for personalities.

One purpose of this study is to find the physical status of Members of Parliament; and another object is to keep them well; that is, to prevent in advance the development of any tendency towards ill health, and by such example encourage all citizens to do likewise. Thus every one with limited means should have access to specialists at nominal expense under Government supervision. The fundamental idea is to go to the specialist first, and then to the general practitioner, who will be helped greatly, by the conclusions of the specialist, in keeping people well.

Doubtless your Government does a great deal for the people in medical ways, but the methods here suggested will be improved by your specialists. In this way your Excellency, your scientists and the Members of your Parliament can all cooperate in establishing a Comparative Legislative Anthropology useful to all nations. For a further explanation of this work, see a study of mine on the Congress of the United

States of North America, published in the "Anales de la Sociedad Científica Argentina," volume C III, pages 5-337, Buenos Aires; also Gazette des Hopitaux, Paris, 26 Dec., 1928; also in the Medical Times, New York City, November, 1928.

Trusting you will give these suggestions and enclosures your distinguished consideration, I have the honor to remain,
Most respectfully,

ARTHUR MACDONALD.

October 10, 1928.

Washington, D. C.

I am sending copies of this letter to your Medical and Scientific Societies.

Purpose of Legislative Anthropology.

Legislative Anthropology includes the legislative, political (not partisan), sociological, psychological and physical status of Members of a Legislature or Parliament.

THE LEGISLATIVE STATUS is based upon the number of bills, amendments, motions and resolutions introduced, and the number of these reported, or passed either House, or enacted into law; also upon the frequency of remarks (not length) on the Floor, including number of subjects discussed; and also upon the number of appointments and designations. The legislative status is estimated mainly according to the difficulty of bills and resolutions, in passing through the regular legislative stages, up to and including enactment into law.

THE POLITICAL STATUS consists in the political party to which a Member belongs, and in public offices held, and political honors received, previous to entering the Legislature, also length of service in Legislature or Parliament.

THE SOCIOLOGICAL AND PSYCHOLOGICAL STATUS is concerned with predominant lineage or heredity, place and time of birth (including order of birth), profession, occupation, and degree of education of Member, previous to entering Legislature; also any appropriate psychological tests.

THE PHYSICAL STATUS includes fundamental anthropological measurements of the body, and what is most important, the health or hygienic condition of the Member of a Legislature.

In addition to the general importance of such data, one purpose is to find whether or not, and if so, in what degree, these different statuses are related or depend upon each other, and to compare Nations as to anthropological status.

The physical measurements of Members of a Legislature represents the anthropological status of the whole country better than measurements of any other body of men. More important still, these measurements can be a basis for the health of the Nation, one of its greatest assets. The examination of Members of a Parliament by specialists, include the stomach, heart, lungs; ear, nose, throat; genito-urinary organs, nervous system, skin and hair, blood and eyes, X-ray and general physical examination, each by a different specialist.

All Members of a Legislature or Parliament measured, especially those in the best of health, should take specialist examinations, so that any latent weakness or defects, often unknown to the general practitioner,

¹ A similar letter has been sent to forty-three Governors of our States.

may be found and provided for in advance. Each specialist should make a full report, and the Member of Parliament examined have a copy, which will be of great value to himself, and especially to his regular physician for future treatment.

The fundamental idea is, to *keep well*, and every hour spent in these examination, may add many years to the life of the Member of Parliament and also spare him from much pain, suffering and sickness. This will enable him to be still more efficient in his public service.

The examination by many specialists is fundamental and may never need repetition. The problem is, to have the normal decadence of life extended equally to all the vital organs, for the chain is never stronger than its weakest link. SYNCHRONICITY is the secret of long life. The author, though always in the best of health, was examined by ten specialists of the Johns Hopkins Hospital, some of his old friends. He has a copy of the report of each specialist. Every citizen, as well as Members of Legislature should have such privilege, who desires to live an active and long life.

To explain more exactly the method pursued by the author, the following list of Washington and Johns Hopkins Specialists was sent to each Member of Congress: FOR MEMBERS OF CONGRESS ONLY WHO HAVE TAKEN

ANTHROPOLOGICAL MEASUREMENTS

The following Washington and John Hopkins University Specialists have consented to give gratis, but for scientific purposes, an examination of every Member of Congress, who takes the anthropological measurements of Dr. Arthur MacDonald.

STOMACH: Dr. Thomas R. Brown, (John Hopkins University) 12 East Eager St., Baltimore; Dr. William Gerry Morgan, 1624 I Street, N. W., Main 4090; Dr. Camp Stanley, The Farragut, Franklin 7010; Dr. J. Russell Verbrycke, Jr., Rochambeaux Apt., Main 3514.

HEART: Dr. Leslie T. Gager, 1614 Rhode Island Ave., N. W., Decatur 1893; Dr. James A. Lyon, 1801 I St., N. W., Main 10160.

LUNGS: Dr. Roy D. Adams, 1801 I St., N. W., Main 10160; Dr. William D. Tewksbury, Medical Science Bldg., Main 9930.

EAR, NOSE, THROAT: Dr. E. G. Breeding, 1801 I Street, N. W., Main 10160; Dr. J. J. Chisholm (John Hopkins University), Medical Arts Bldg., Baltimore; Dr. William B. Mason, 1738 M. St., N. W., Franklin 4578; Dr. G. B. Tribble, 1801 I St., N. W., Main 10160.

GENITO-URINARY ORGANS: Dr. Henry A. Fowler, Stonleigh Court, Main 2270; Dr. Francis R. Hagner, Farragut Apt., Franklin 7010; Dr. Hugh H. Young (Johns Hopkins University) Brady Clinic John Hopkins Hospital; Dr. W. W. Scott, (Johns Hopkins Hospital, Brady Clinic.

NERVOUS SYSTEM: Dr. W. Rush Dunton, Jr., (Johns Hopkins University) Cantonville, Md.; Dr. J. Duerson Stout, 1801 I St., N. W., Main 10160; Dr. Daniel D. V. Stuart, Jr., Wyoming Apt., North 9713; Dr. G. Lane Taneyhill (Johns Hopkins University) Medical Arts Bldg., Baltimore.

SKIN AND HAIR: Dr. H. H. Hazen, 1911 R Street, N. W., North 6612; Dr. Lee McCarthy, 1705 N Street, N. W., Decatur 1299.

BLOOD: Dr. Lester Neuman, 1638 16th St., N. W., Potomac 66; Dr. H. E. Simons, Medical Science Bldg., Main 9930.

EYES: Dr. S. B. Munceaster, Presidential Apts., Main 698; Dr. Robert Scott Lamb, Stonleigh Court, Main 2270; Dr. E. G. Seibert, 1801 I Street, N. W., Main 10160.

SURGEONS: Dr. Edward Hanrahan, Jr., (Johns Hopkins University) Severn Apt., Baltimore; Dr. James F. Mitchell, 1344 Nineteenth St., N. W., Franklin 4469; Dr. Wm. F. Rienhoff, Jr., (John Hopkins University) 1201 N. Calvert St., Baltimore.

X-RAY: Dr. M. I. Bierman, 1801 I Street, N. W., Main 10160; Dr. Claude C. Caylor, 723 Fifth St., N. E. Lincoln 982.

GENERAL PHYSICAL EXAMINATION: Dr. Worth B. Daniels, Parkwood Apt., Franklin 6940; Dr. Everett M. Ellison, 1720 M St., N. W., Franklin 3650; Dr. Joseph M. Heller, Parkwood Apt., Franklin 6940.

Legislative Ability.

We intimated in a preceding article in the November Number of the MEDICAL TIMES for 1928, on Estimating Brain Weight and Legislative Ability in Congress, that we would go more into the details of estimating legislative ability.

If the reader will consult the article in the MEDICAL TIMES in connection with the discussion here of legislative ability, the connection and meaning of both articles will, I trust be more evident.

In at least three-fourths (probably nine-tenths of cases) the Members of Congress who are most active, and also most successful in getting bills enacted into law, resolutions passed and amendments adopted, show the most legislative acumen or ability. There are always exceptions to this rule, but they only prove the rule. In general, a Member who introduces a bill and gets it enacted into law, must devote much attention to the bill in the different stages through which it must pass before being enacted into law. This study is not concerned about the nature of the bill, resolution or amendment, whether good or bad. A bill that subsequently proved to be a bad one might require more ability to get enacted into law than a good bill. In short, and in the long run, legislative success amounts to legislative ability, as in business it is the delivery of the goods that decides.

The method of estimating legislative ability, to be considered, and as illustrated in tables 1 and 2, will be found not to be arbitrary, but to be based on actual results, and where that is not possible, upon the experience of those who have been long connected with both House and Senate.

Skepticism as to Estimating Legislative Ability.

While it may be admitted that, in general, legislative success spells legislative ability, yet there may be much skepticism as to estimating such success or ability by any method of calculation.

In any new effort in a line of study, especially when made for the first time anywhere, whether meritorious or not, there naturally arises some skepticism which may go so far as to make such study appear to be a freak. But most all new lines of research may be liable to be considered as very doubtful, if not visionary or freakish, and some are; but the mere fact of their newness is, of course, no proof of this.

The older Members of Congress form more or less of a club, or are like classmates in college: they know each other well; especially is this true in the Senate. If any experienced Member should be asked to name the first twenty, thirty or fifty men in Congress who are doing most of the legislative work he would find little difficulty in telling. Though, in certain cases, there might be some difference of opinion, the great majority of the names mentioned would be undisputed. Such a general agreement as to who are doing most of the legislative work in Congress can, not only be expressed in words, but can be estimated approximately (though perhaps roughly) in figures. If there be some doubt here, it may be stated that in the Senate of the 62nd Congress, which the author studied*, those most experienced, and least liable to be prejudiced, were asked to name the first thirty Senators who were doing most of the work in the Senate. Comparing the lists

*A study of the United States Senate, published in *Metron (International Journal of Statistics)*, Padova, Italy, 1923, 80, 23 pages; also by the Anthropological Society of Bombay, India; also in Spanish in *Revista Argentina de Ciencias políticas* are VIII, t. 15, Buenos Aires, Argentina.

named with the list based upon the author's estimate, depending upon percentages of legislative results, there was very little difference practically. The same method of estimating legislative ability is used here, with the addition of allowing something for initial legislative activity, which was not done in the former study.

In talking with Members the author has noticed in a few a tendency (which is natural and probably unconscious) to base their opinion of estimating legislative ability mainly upon their own experience; this is instructive, and to a certain extent desirable, from the point of view of science. It seemed to be assumed that the purpose was an *exact* estimate of legislative ability, which, of course, is not the case; in fact, it is probably impossible to make an exact estimate; though this be true, it does not follow that a rough approximate estimate may not be made.

It sometimes happens that a Member introduces a bill which is reported and passed by the House and reported in the Senate, but fails to become law because of late report by the committee or too much pressure for other bills, or shortness of session, or filibuster. The bill was a good one; there really was no serious objection to it, and in a normal course of events would have become law. Later the same bill, with few changes, is introduced by a Member of the opposite party who have come into control of Congress. The bill is enacted into law, and the Member who first introduced it, and is the real author, gets no credit for it. But this is a very exceptional case, and only strengthens the general rule, that Members must work continually for their bills if they expect other Members to help to enact them into law.

Another Member introduced a bill, a copy of which was incidentally sent to the White House, and was returned with the approval of the President. It was, therefore, made in committee a part of a large general bill which was reported out in the name of the Chairman of the committee, who introduced the general bill. Of course, the real author of this bill, which was inserted into the general bill, received no credit publicly. But there are many Members with such legislative ability whose good work in different committees is not known generally, and for which no credit can be given by any method of estimating legislative ability. In fact, these able Members are not seeking personal credit, but are only desirous to help all they can in enacting good laws. This, in fact, is the experience of many of the best men in Congress, and is generally so distributed that it is fair to all, or almost all, and, not being possible to estimate it, it can be omitted. These gentlemen are often Chairmen of important committees or leaders in their party, and have special opportunity to receive credit, by virtue of their high position and standing, for reporting of bills, or making motions and amendments, or for number of subjects discussed and frequency of remarks on floor, all of which are given due credit in table 2 for initial legislative activities. These special opportunities for receiving credits serve to a large extent as an offset to the good work Chairman and leaders do in committee, for which no credit is recorded.

The Merit of Seniority.

But some Member may say that high positions as leaders, and Chairmen of committees, are due mainly to being in Congress a long time, that is, to seniority, and are not due to any special ability. It is true that the seniority of itself gives many advantages and has much weight. But seniority, in nine cases out of ten, has much merit, for it depends mainly and ultimately on legislative

success and political ability. For any Member to so act in Congress and at home, as to receive the majority of votes of his District or State for many years, shows political and legislative insight, which means ability, that consists in so adapting himself to both his Congressional and District environment as to have the voters choose him to represent them, time and again, and this often, in spite of strong opponents in nomination in the Primary, as well as in the election, who watch all of his work in Congress, always emphasizing and publishing his defects and mistakes in his District or State, but seldom or never mentioning the good work he does in Congress; yet he still remains, and often withstands even a political landslide against his own party. The people instinctively know him, and sooner or later his opponents become weary of attacking him, though they usually are alert for any opportunity to criticise him. Such seniority shows legislative ability and political sagacity; legislative ability is put first, for any mistakes here are more serious and sure to be published, and often embellished for home consumption, and, whatever effect legislative errors produce, it reaches more the leading voters of the community who can usually influence the people, if they so desire, but often, to their credit, do not make the effort, as they prefer to let well enough alone in politics, and not take chances on what an unknown opponent will do in Congress, not to mention the fact that a new Member must start at the bottom and is usually not able to accomplish much at first.

In short, it may be said that politics is a specialty and to be successful in it, as in any specialty, ability and experience are required. There are exceptions, but again they only emphasize the rule. The conclusion is, that seniority is in the last analysis almost wholly based upon legislative ability and political acumen, and whatever advantage it affords in an estimate of legislative ability should be given due credit.

It sometimes happens, but rarely, that a District will replace its Representative in Congress by a man whom they acknowledge is inferior. But their reason is that they prefer a man who represents them to one who does not, though he be superior. That is, a Representative or Senator must be a good politician, as well as a statesman. The author once asked a distinguished Senator (to whom he had written a letter) if he had received the letter. The Senator said, "There are more than three hundred unanswered letters upon my desk; for three weeks all my time has been required to defend the President as his spokesman."

Through such neglect of his correspondence (not to mention the want of a good secretary who could answer most of his letters) he had made so many discontented in his State that some time before election he announced that he would not be a candidate for re-election. Knowing that he would have strong opposition, he preferred this course to taking chances of closing a long and distinguished public service by defeat. So he gracefully, and doubtless wisely, retired with honor. Yet, every one, including his opponents, acknowledged that his statesmanship was of the highest order. Thus again it is seen that seniority required good politics as well as high class statesmanship, and, as already noted, the legislative activities from advantages growing out of seniority should have due credit.

ESTIMATING LEGISLATIVE SUCCESS IN ABILITY
TABLE 1. RESULTS OF LEGISLATIVE ABILITY IN PERCENTAGES

No. of Column	Reported	Passed Senate	Passed House	Passed Both Houses	Enacted into law	Adopted
	1	2	3	4	5	6
Private Bills	3.2	2.4	2.6	1.8	1.8	
Public Bills	5.7	3.3	4.5	2.7	2.4	

Amendments	(Pension Bills) 9.8	48.9
Motion and Resolutions		64.2

SCALE OF UNIT VALUE

No. of Column	Reported	Passed Senate	Passed House	Passed Both Houses	Enacted into law	Adopted
	7	8	9	10	11	12
Private Bills	58	76	71	100	100	
Public Bills	32	55	40	66	77	
Pension Bills					18	
Amendments						4
Motions and Resolutions						3
Appointments and designations						10

In table 1 is given the main basis upon which legislative success or, in general, ability is estimated. The estimate is based upon the difficulty in getting bills reported, through either house, or enacted into law, or resolutions or amendments adopted; in short, the difficulty of getting results in any of the legislative stages through which any kind of bill or resolution or amendment may pass.

Table 1 is divided into two parts, one part giving the percentages of bills introduced which are enacted into law (column 5) or reported (column 1) or passed Senate (column 2), or House (column 3), or both Houses (column 4); also percentages of amendments, motions or resolutions introduced which are adopted (column 6).

The second part of the table consists in a scale of credit marks, or units of value, based upon the percentages in the first part of the table. Thus, for the 89 Members of Congress studied, 1.8 per cent (column 5) of private bills introduced were enacted into law; 2.4 per cent of public bills introduced were enacted into law (column 5). The private bills were the most difficult to have enacted into law. If for every private bill enacted into law we allow 100 marks or units of value, then we must allow 77 marks for every public bill enacted into law. For if 1.8 per cent for a private bill is given 100 marks 2.4 per cent for a public bill will receive 77 marks—that is, 1.8 divided into 2.4 per cent is 1.3, and this divided into 100=76.9, or 77.1. Again, 4.5 per cent of public bills passed the House (column 3); this divided by 1.8=2.5, which divided into 100=40 credit marks or units of value (column 9). So 48.9 per cent of amendments introduced were adopted; this divided by 1.8=27.1, which divided into 100 gives 3.69, which we will call 4, meaning 4 credit marks.*

All these results are not arbitrary, but are based upon the degree of difficulty of the different stages of legislation through which it passes until enacted into law.

Initial Legislative Activity.

There are Members of Congress who may not succeed in getting but few or no bills passed or amendments and resolutions adopted, but who are quite earnest in what may be called initial legislative activity; they may introduce many bills, and propose amendments to improve bills, trusting to get something done that may assist in legislation. Others make a point of watching legislation and frequently opposing it, if not blocking it, because they believed it is not for the public good. There are still others who feel it their duty to speak frequently on the floor so that the whole country may know the objections to and defects in whatever comes before Congress. There are also a very few who appear not only not to do anything, but not even to make any effort; they may feel discouraged or disgruntled or have concluded that they do not like the work at all and are

not adapted to it; these, of course, would stand low in any estimate of legislative success or ability. Some have gone to such an extreme as to introduce bills to abolish either House or Congress itself.

It would seem that initial legislative activity should have some consideration in estimating legislative ability. The author consulted, as to his method with many who have had extensive experience in accounting for and recording initial legislative activities in both Houses. The following table (table 2) gives the results:

TABLE 2. INITIAL LEGISLATIVE ACTIVITIES

	Unit of Value
Petitions and memorials presented.....	¼
Private bills (including pension bills) introduced.....	½
Public bills and joint resolutions submitted.....	1
Motions and resolutions submitted.....	1
Number of subjects discussed on floor.....	1
Frequency of remarks on floor.....	1
Amendments submitted in advance or offered on floor.....	2
Reports for committees made by Member.....	5
Appointments and designations	10

In table 2 are given the names of the various initial legislative activities in the order of their estimated value. It will be noted that four types of activity have the same credit mark or unit of value, because in such an estimate, fine distinctions should not be made, as the main purpose is a general approximate workable schedule.

Examining table 2 in detail it will be noted that the introduction of a public bill, or joint resolution, or submission of simple resolution or motion, each count one unit of value or credit; likewise the number of subjects discussed on floor, each count one; also the frequency of remarks on floor—that is, the number of different times remarks or speeches (without regard to length of time occupied) are made on the floor, each time counts one. As the Member speaking on different subjects is necessarily doing it publicly and submits himself to criticism, one unit at least should be allowed; the idea being to put the credits as low as feasible for initial legislative activity. Thus, one-fourth of a unit is given for every petition and memorial, and one-half of a unit for every private or pension bill introduced.

Amendments submitted in advance, or offered on the floor, are each counted two units, due to the fact that, in general, they probably require more legislative tact (ability) than mere introduction of public bills or resolutions.

Five units are allowed for each report by a Member from a committee. Some reports deserve much more; but, considering various reports as a whole, it was thought that five units would be about fair. For appointments and designations ten units for each are allowed. An appointment to be a conferee on a large and important bill is a high legislative honor and usually, if not always, means a thorough knowledge of the bill, due to much experience and study of it in committee on the part of the Member appointed. Such an appointment deserves more than ten units. Appointments, as Chairmanships of special committees, to study some important matter, and report on it, or to make investigations of some irregularities, or public scandal, deserve more than ten units. But there are other appointments, more or less formal, as attendance at funerals of Members, which deserve but one unit, if they do that. Also designations which are practically appointments vary much. So, on a general consideration of all kinds of appointments and designations it was thought that about ten units for each one would be fair. Distinctions might be made between different kinds of appointments and different credits given, but it would in many cases be too fine and too arbitrary. One thing may be said in regard to credits for appointments and designations, that

*In all cases where the decimal is 6 or more we give it the next number, so as to avoid fractions.

certain leaders of experience who receive most of the appointments do not, as a rule, introduce many bills or resolutions, or get many through, because their time is taken up mostly in important committee work, for which they get little or no credit; but the ten credits for each appointment act as an offset to make up for the lack of credits for high class committee work, for which they receive no credit marks, and which could not be given them, as work in committees is often more or less confidential.

Another question might arise as to difference between House and Senate, because Senators have more opportunities for legislative activities than Representatives, being much fewer in number, and passing upon all legislation coming from the House. But there are nearly three times as many bills, resolutions and amendments introduced in the House than in the Senate (69th Congress: 18,312 in House; 6,417 in Senate), for which credit is given in the House not only for the introduction, but for every further legislative advance of the bills, many of which never reach the Senate, affording no possibility of Senators receiving credit from them. Moreover, the House makes many more committee reports than the Senate (69th Congress: House 2,161; Senate, 1,717), for each of which 5 credits are allowed. But, nevertheless, admitting that Senators have more opportunities for credit marks, it must be remembered that usually it is much more difficult to become a Senator than a Representative, for the gaining of a Senatorship is based not only on high standing at home and political acumen (ability), but often on previous successful and extensive experience either in the House of Representatives or in the State Legislature. Since the Chairmanship of a committee (as we have seen) affords special opportunities for legislative activity, giving credits, so being a Senator likewise furnishes special legislative advantages.

There is a further question as to advantages to a Member in receiving credits who belongs to the majority party in control of Congress. There is no doubt that this affords many advantages in gaining successful legislation, and possibly more opportunity for legislative activity. But such advantages are more or less counterbalanced by the fact that minority Members, not being responsible for legislation, can attack it at every opportunity by making motions and amendments, and frequent remarks, for all of which activities they receive credits, and frequently such opposition may show much legislative acumen or ability. Moreover, some majority Members, who disagree with their leaders on some measure, refrain from making similar attacks on account of loyalty to their party, and lose such opportunities, while the minority Members may be encouraged by their own party to make such attacks, not to mention the fact that such activity whether merely partisan or not, often furnishes good material for home consumption, making the Member more popular in his District or State. In brief, Members by virtue of being of the minority party, are more encouraged to increase their legislative activity, especially the *initial* type, for which credits are given. But, notwithstanding such advantages, if it be admitted that the minority Members are still at a disadvantage, they could be allowed a certain percentage of increase in their credits in general, which might vary a little, according to special conditions in the Congress or session of the same Congress. Such percentage for increase of credits could be easily determined with approximately fairness to all. Moreover, the fact of one Member having five or ten more credits than another would signify little or nothing, but when the difference gets to be larger it begins to have some signifi-

cance, which increases as the differences increases. It might be added that in the Senate of the 62nd Congress studied by the author, five Democratic Senators were among the first twenty Senators. Also in this study table 7 shows 7 Democratic Senators to stand higher than the Republican Senators (in majority Party).

We have endeavored to give all the main difficulties or objections that might be urged against estimating legislative success or ability. After all has been said, it will be found that on the whole, for every disadvantage, in one respect there is most always a counterbalancing advantage in another respect for which we have tried to provide our schedule for unit values or credits. In short, as frequently indicated, the main purpose of the schedule is to give a rough but approximately estimate of legislative ability, which we deem feasible from our experience in a study of the Senate of the 62nd Congress, and we feel that many objections to estimating legislative ability are not based upon any serious study of the subject, but upon special and exceptional experiences, if not a general prejudice against any estimate whatever. When psychology began to measure thought and feeling, it encountered many similar objections that might be raised against estimating legislative ability. But objections of this nature will disappear, as they did in psychology.*

If any one will examine table 4, of article in MEDICAL TIMES for November, 1928, where each of the 89 Members studied is ranked according to the number of his credit marks, beginning with the lowest, 14, and so on in order up to the highest, 2,412, he will realize the impossibility of knowing whom any one of these numbers represents. In fact, the author could not tell, unless he referred to the originals, which he has laid away to keep, in case any Member studied, desired to know his own record, which, of course, would be given him.

Now, to illustrate the actual estimation of legislative success or ability, let us take the case of one Member, as shown in table 3, where all the items (from 1 to 37) are given, that can be marked for credits. Thus, beginning at the top of table 3, this Member introduced 83 public bills and joint resolutions; now looking at table 2, giving the schedule for initial legislative activities, we find one unit of value or credit given for each bill or joint resolution introduced, which makes 83 units of value; there were 22 amendments offered by this Member; looking at table 2, again, we find 2 units allowed for each amendment, making 44 and so on through the first part of table 3. Now, passing on to the second part of the table, for results of legislative activities, we note that of the public bills and joint resolutions introduced by this Member three never went further than to be reported; looking at the schedule in table 1, for results of legislative activities, we find (column 7) 32 credits for public bills reported, making 96 units, and so on, until we reach the end of the table, where the total is given of 2,403 units. Thus, by referring to tables 1 and 2, we find a number of credits allowed for any item in table 3.

TABLE 3. INITIAL LEGISLATIVE ACTIVITIES

No.		Units of Value
1.	Number of case	89
2.	Public bills and joint resolutions introduced....	83
3.	Private bills introduced	39 19½
4.	Pension bills introduced	51 25½
5.	Amendments offered	22 44

*With another American, the author measured in thousandths of a second, how long it takes to think, feel or make a judgment. This was one of the first efforts of its kind, and was made 40 years ago in Wundt's Laboratory at Leipzig.

6. Motions and resolutions submitted	85	85
7. Petitions and memorials presented	34	34½
8. Number of subjects discussed on floor.....	265	265
9. Frequency of remarks on floor	653	655
10. Committee reports	25	125
		1308

RESULTS OF LEGISLATIVE ACTIVITIES

11. Public bills and joint resolutions reported only	3	96
12. Public bills and joint resolutions passing House only	0	0
13. Public bills and joint resolutions passing Senate only	3	165
14. Public bills and joint resolutions passing both Houses	1	66
15. Public bills and joint resolutions enacted into law	1	77
16. Concurrent resolutions passing senate only.....	0	0
17. Concurrent resolutions passing House only.....	0	0
18. Concurrent resolutions passing both Houses.....	0	0
19. Senate resolutions adopted	0	0
20. Private bills reported only	0	0
21. Private bills passing Senate only	0	0
22. Private bills passing House only	0	0
Number of case	89	
23. Private bills passing both Houses only.....	0	0
24. Private bills enacted into law	0	0
25. Pension bills reported only	0	0
26. Pension bills passing Senate only	0	0
27. Pension bills passing House only	0	0
28. Pension bills passing both Houses only.....	0	0
29. Pension bills enacted into law	8	144
30. Appointments and designations	24	240
31. Amendments adopted	34	136
32. Motions agreed to	73	219
33. Resolutions (except joint resolutions) passed ..	4	12
34. Quorum calls		
35. Yea and Nay calls		
36. Quorum, and Yea and Nay calls		
37. Total number of units of value		2463

TABLE 5. POLITICAL PARTIES COMPARED

No.	DEMOCRATS	Average Credits
32	Representatives	250
7	Senators	953
39	All	376
	REPUBLICANS	
39	Representatives	265
11	Senators	899
50	All	404

If we had all Members of Congress, we could compare State Delegations with each other (always relative, of course, to the number in each Delegation), also groups of Members from the South, North, East or West; also according to length of service or continuous service, and all such groups both with and without regard to political party. This might tend to encourage a healthy rivalry between States in legislative work, if not more carefulness in such work.

As already indicated, this whole study, with its results, can serve only as an illustration of initial research work, in what may be called Legislative Anthropology. It is therefore, hoped that similar studies of other legislative bodies may be undertaken, not only in our State legislatures, but in the Parliaments of other countries, so that eventually we may have a foundation for the development of a comparative Legislative Anthropology, with the United States in the lead.

As all legislative bodies are usually competitive in their activities, success is necessarily connected with merit. Also most legislative activities are not arbitrary, but all have certain causes, and follow a law yet unknown, which may in the future be discovered, and lead to changes in rules of legislative procedure.

LETTER TO MEMBERS OF STATE LEGISLATURES.

February 2, 1929.

My dear Sir:

I beg leave to enclose copy of a letter to your Governor, and also related matter which explain themselves.

Will you kindly do all you can in your Legislature to carry out the plan of work described in enclosures? I trust that you will take the anthropological measurements and also, if possible, one or two medical examinations, and thereby set a good example for the people, that they may receive the benefits of Preventive Medicine, especially laborers and also persons with limited means; and, if possible, under the direction of the State.

In new movements progress at first may be slow, but the important thing is to make a *beginning*. This whole plan is, of course, voluntary for every one concerned. I trust, therefore, that you will consent to take at least the anthropological measurements, for the greater the number, the more trustworthy will be the results. Under no circumstances is the identification of anyone to be revealed. One humanitarian object is to give all citizens the advantage of *Preventive Medicine*, one scientific purpose is to find the anthropological status of your State.

Thanking you, and requesting your most careful and distinguished consideration, and trusting to hear from you soon, I have the honor to be,

Most respectfully,

ARTHUR MACDONALD.

Address: Dr. Arthur MacDonald,
20 Third Street, S. E., Washington, D. C.

Explanatory Statement

Many important investigations of the delinquent, defective and dependent classes have been made. But the question arises, why should not persons of ability, talent and genius be studied? It is just as important and perhaps more so, to find out the causes of success as those of failure, to study optimistic as well as pessimistic phenomena.

Legislative anthropology is an effort in this direction, to make a study of those persons, who are politically successful, many of them are statesmen. It is all the more necessary; for this class of citizens are often underrated and unjustly so. Take for example the American Congress of North America, where thirty-five or more thousand bills are introduced every Congress; from one to two thousand of these bills are enacted into law; that leaves some thirty-three thousand that fail. On the average, about one hundred persons are interested in each bill; this means several millions of dissatisfied or disgruntled citizens for every Congress, and this has been going on for many years. Such dissatisfaction is cumulative, making persons Anti-Congressional. In addition to all this, the faults and mistakes of Members of a Legislature are published (usually exaggerated) as often as they come up for election. If the Lawyer's errors, the Doctor's mistakes and the Preacher's faults were published from time to time, how would these gentlemen compare with Members of a Legislature or Parliament?

While it was necessary to outline the entire plan of work involved in Legislative Anthropology, at present, only the *physical* and *preventive-medicine status* is under consideration. The Legislative, or Political, or Sociological and Psychological status will vary much in Legislative organizations, and is a matter for future inquiry. Moreover it is not the purpose in the psychological status, to make a mental test; for the Legislator elected by the people has already had a test much better than any mental test; for as in business, the delivery of the goods is the real test. Estimating brain weight is only for comparison with the real test, whether confirmatory or otherwise.

Subcutaneous Injections of Oxygen

T. S. Kirk (*British Medical Journal*, August 4, 1928) has injected oxygen subcutaneously with marked success in pneumonia, after operations for burns and in other in which acidosis is established. The amount given at one time is usually about 200 c.c., but as much as 400 c.c. at a time can be administered. Charts illustrate the results obtained.

Traumatic Rupture of the Normal Spleen

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Report of Three Cases with a Cursory Review of The Literature

Rupture of the spleen, spontaneous or traumatic, is imperfectly understood and though many hundreds of cases have been reported in the literature, the subject demands much additional study. Spontaneous rupture of the spleen has occurred in typhoid fever, in amyloid degeneration, in malaria and in many other pathologic conditions associated with splenomegaly. The pathological spleen, owing to its enlarged volume, increased friability and lessened mobility consequent to the presence of perisplenic adhesions, is predisposed to traumatic rupture. Traumatic rupture of the pathologically enlarged spleen may follow a slight accident as in the case reported by Dorolle (1) in which a soldier with an enlarged malarial spleen died a few minutes after having been struck a light blow on the side. At autopsy, the spleen presented two tears, one on its external, the other on its internal surface. It weighed 995 grammes; the abdominal cavity contained over 3 litres of blood.

Usually, rupture of the normal spleen results from a severe abdominal contusion or crushing injury. The vast development of automobile traffic on our streets has increased the frequency of this lesion. Therefore, a paper on the subject is not untimely and may serve to emphasize the importance of splenic rupture and the possibility of its being overlooked in patients, victims of automobile accidents. This paper deals only with traumatic subcutaneous rupture of the normal spleen. Such a rupture is usually due to a direct crushing injury on the left hypochondrium or over the left thorax as one may sustain in a fall from a bed, a tree, etc., from a blow, a kick, (man (11) or horse (17)), or from the impact of a hard body, a fractured rib, etc. Rupture due to penetrating wounds from without, we will not consider at this time. The small volume, mobility and location of the normal spleen all protect it to a certain extent from injury.

Berger (2) in 1907, collected from the literature 467 cases of splenic traumatism, 306 of which were subcutaneous injuries. Two years later, Borgsitter (3) increased the number to 203 surgically treated cases. Barnes in 1914 reported 31 further cases of rupture of the normal spleen and Willis (5) in 1919, found 53 more cases reported.

Etiology

This injury occurs in both sexes; in children (10) and in adults. Age or sex, of course, have no significance in traumatic cases. The automobile has many advantages and has become almost a necessity to a large section of the population, but it is also a powerful agent of injury and death. Many cases of traumatic rupture of the normal spleen reported in the medical literature of recent years, have been the result of automobile accidents. Alamartine (6), Koltes (7), Willis (5) 2 cases, Garlock (9), Frank (10) and Chaliar (12) have reported cases of the kind. In McCracken's (13) 20 cases, one-third were due to train or motor-car accidents. To produce a splenic rupture, it is not necessary that the car should pass over the victim; in a collision, such an injury may also result to an occupant of the car. In Koltes's case, the patient had been thrown out of the car and was operated for a

splenic subcapsular hemorrhage, 4 days later. In 2 of the 5 cases reported by Butler and Carlson (8), the patients had been struck by an automobile; in the other three cases, the wheels passed over them. In most of the reported cases, the patient had been struck by a machine. A fall on the left lower ribs on a sharp surface is liable to cause a splenic rupture.

Splenic rupture may result from an abdominal traumatism elsewhere than in the splenic region. Latouche's (14) patient was a child 10 years of age who, following a fall on the right side, presented a splenic rupture. Forced extension and exaggerated flexion of the body have caused splenic rupture; at times, the fragment of a broken rib is the causative agent.

In automobile accidents, usually, the rupture is produced by a direct blow on the flank over the spleen or else by the spleen being compressed between two hard opposing surfaces either directly or through the medium of the ribs.

Within the past year, I have removed two ruptured spleens. In reporting them, I wish to report also a case in which ten years ago, I removed a ruptured spleen. All these patients were victims of automobile accidents. Short histories of these cases follow:

Symptoms of Splenic Rupture

Case 1. R. R., male; 8 years old, referred by Dr. L. Roth. History: The boy having been struck by an automobile was conveyed immediately to his home and there seen successively by several physicians who failed to make a definite diagnosis. Dr. Roth was consulted 48 hours after the accident. The child then complained of severe abdominal pain and tenderness, both especially marked in the left hypochondriac region; he was pale, nauseated and apparently suffering from deep traumatic shock. Over the left hypochondriac region, the abdomen was tense, contracted and rigid. Temp. 99, extremities cold and clammy; pulse 100 and weak. A blood examination showed: R. B. C. 2,950,000; W. B. C. 14,350, hemoglobin 45%. The symptoms suggested an internal hemorrhage, and an immediate laparotomy was decided upon. Operation: Ether anesthesia. Rupture of the spleen being suspected, a long, left transverse, subcostal incision was made. On opening the peritoneum, a large quantity of fluid and clotted blood escaped; it was found to proceed from the lower pole of the ruptured spleen on the convex surface of which could be seen a large stellate fissure partly filled with large clots. After walling off the intestines, the spleen was exteriorized, its pedicle was clamped and ligated serially with double ligatures of chromic gut and the organ removed. Peritoneal toilet and closure of the abdomen; no drainage. An infusion of 500 c.c. of saline solution was given. The boy made an uneventful recovery.

Case 2. Miss J. H., age 20 years, was knocked down by an automobile. While still unconscious, she was taken to the St. Paul Hospital, Chicago, where for about 48 hours she remained in a condition of intense traumatic shock; she had a very rapid and weak pulse, a facies of cadaveric pallor and marked dyspnoea. T. 95; p. 105; Resp. 24. Under continuous application of the usual restorative measures, the patient began to improve.

Examination. The patient's body showed several con-

tused areas. The expectorate was slightly blood-tinged. Tenderness and muscular contracture, fairly marked over the whole abdomen, were particularly noticeable in the upper left hypochondrium; there was a moderate degree of tympanites. The left hypochondrium was dull on percussion. Fracture of the left tenth and eleventh ribs could be demonstrated. The patient complained of pain in the left shoulder. Blood examination showed R. B. C. 3,050,000; W. B. C. 12,700. Fifty-eight hours after the accident, owing to the continued presence of all the signs and symptoms of an acute anemia indicative of an internal hemorrhage, it was determined to explore the abdominal cavity.

Operation. A splenic rupture being suspected, the abdomen was opened by a left subcostal incision. The peritoneal cavity contained a large amount of free and clotted blood which was quickly removed. Exploration traced the hemorrhage to the spleen which was found ruptured in the superior pole. After ligation of the pedicle with chromic gut, the organ was removed; two gutta percha drains extending to the former splenic bed were inserted. They were removed two days later. Abdominal closure. The left side of the chest was immobilized by overlapping strips of adhesive plaster extending over the left half of the thorax from the anterior median line of the body to the posterior median line. Following the operation, a subcutaneous infusion of 700 c.c. of saline solution was given. It was repeated daily for three successive days. The patient made a smooth recovery. One month after the accident, the only symptom present was some pain over the left chest on coughing, sneezing or yawning.

Case 3. H. A. referred by Dr. Ross, 18 years old, sustained, in an automobile collision, abdominal injuries. He was immediately conveyed to the Iroquois Hospital, Watseka, Illinois. When seen two days after the accident, he was suffering from intense abdominal pain and presented a board-like rigidity of the abdominal wall and other signs of abdominal injuries. Pain on pressure was especially marked in the left hypochondriac region; patient was very pale, pulse and respirations were accelerated; patient had vomited. Splenectomy, recovery. Ten years later, he is in excellent health and is able to work the same as his comrades.

Case Histories

The most important immediate symptoms of splenic rupture are, as may be expected, those that arise from severe abdominal visceral injuries, viz.: traumatic shock, hemorrhage and abdominal phenomena. Vomiting is not a constant symptom. These immediate symptoms do not as a rule enable us to differentiate a splenic rupture from that of any other abdominal viscus. Generally, it is only after a delay of several hours, or even days in some cases, that the intensification of existing symptoms or the appearance of new ones focuses attention on the spleen.

In every case of abdominal contusion, splenic rupture is a possibility. Therefore, in examining patients with traumatic abdominal injuries, the possible clinical symptoms associated with splenic rupture should always be kept in mind. This is very important in automobile accidents, as in these victims the contusions and injuries are often general and are not necessarily confined to the hypochondriac region. It is well to remember that such injuries may happen to persons within a car as well as to those injured by a car striking or passing over them; severe blows on the flanks or a costal injury in the neighborhood of the spleen are very likely factors in the production of a splenic rupture.

Let us consider the most salient symptoms caused by

splenic rupture. Shock is usually, but not invariably, present. It is manifested by its usual signs and symptoms: pallor, cold sweat, drawn facies, rapid respiration, small and rapid pulse, etc. Patients may get up and walk for some time after the accident, but syncope appearing some hours or some days after an abdominal injury, associated with a small rapid pulse is suggestive of a delayed hemorrhage, and when supported by other corroboratory symptoms, is almost pathognomonic of splenic rupture. This delayed or recurring syncope is indicative of recurring hemorrhage and calls for immediate operative relief. Persistent pain and tenderness especially when stronger later than at the time of accident are also symptoms of great value. The pain in the case of a splenic rupture may not be strictly localized. It is always most marked in the superior abdominal quadrant, it may be iliac, inguinal or irradiate to the lumbar region. In character, the pain is acute, often stabbing, and is more intense on pressure and in the dorsal decubitus.

Pain in the left shoulder (5) when present is a very important though not an absolute symptom of splenic rupture. It has been reported in about 10 per cent of the cases, although it is probable that it was present in many others but not looked for. This sign has been observed in spontaneous as well as in traumatic rupture of the spleen. It was present in one of my cases. It may be a late sign as in Havliek's case (15) of hip dislocation and associated splenic and pancreatic rupture in which it was only observed on the fifteenth day after the accident, at a time when there were no abdominal symptoms. The corresponding upper limb is also usually cold. Quenu (16) attributes this scapulo-humeral pain to possible irritation of the inferior surface of the diaphragm by blood clots and also to irritation of the centripetal fibers of the splenic nerve, the medullary centers of which are adjacent to those of the sensory nerves of the shoulder. On the other hand, Havliek thinks the pain is referable to the splanchnics rather than to the phrenic nerve. Muscular contraction or rigidity of the abdominal wall is usually a very early and progressive symptom; at first, it is localized; later, it becomes generalized (board-like abdomen). It may be delayed, (Hubbard (17) and Latouche (14) or absent even in complete rupture. It was observed in about half of the reported cases and it is more likely to be found on the left than the right side. It was present in all my cases.

Tumefaction over the region of the spleen, either stationary or progressive in character, has been reported in a few cases and is indicative of a strictly localized effusion of blood or hematoma. The pulse may not be accelerated. There have been cases in which patients with an abdomen full of blood have shown an approximately normal pulse; nevertheless a very rapid thready pulse, when present with other signs, is highly suggestive of internal hemorrhage. Temperature usually falls immediately after the accident but may return to normal or higher within a few hours.

Dullness is usual over the lower abdomen. The most important sign connected with dullness is that known as Pitts and Ballance's sign, first described by them in 1896. It apparently has received but little attention as it is recorded as having been sought only in a very few of the reported cases. Pitts and Ballance (18) found that if there be present an effusion of blood in the abdomen from a ruptured spleen, when the patient was turned on the right side the flank remained dull owing to the presence of fixed clotted blood, but on turning the patient on the left side the right flank becomes sonorous. This sign, right-flank sonority and persistent left-sided

dullness on change of position is strongly presumptive, in fact, is practically, pathognomonic of splenic rupture. Its absence however does not negative the presence of splenic rupture.

Hemorrhage: In injuries and ruptures of the abdominal viscera, symptoms of internal hemorrhage furnish an almost imperative indication for immediate operation. In the cases collected by Berger (2) hemorrhage was the immediate cause of death within the first hour in 52 per cent of the cases of splenic rupture; in 14 per cent between 1 and 16 hours, and between 1 and 24 hours in 34 per cent.

In immediately fatal hemorrhage, Quenu (16) states that the patient presents great pallor, cold extremities and cold and clammy skin. The patient complains of vertigo, tinnitus aurium. The pulse is small and rapid, the temperature low and the respiration superficial. The abdomen is painful and on palpation presents areas of dullness.

The common type of hemorrhage following splenic rupture is, however, not so striking. The extent and nature of the rupture determines the amount of hemorrhage. The extravasated blood may become partly encysted or slowly escapes into the peritoneal cavity owing to clotting at the vascular orifice, vasoconstriction, muscle contraction, etc. The hemorrhage may become arrested by clotting as the blood pressure, drops to recur again as the patient's condition improves. The hemorrhage may be interstitial forming simple ecchymoses or small subcapsular or intrasplenic hematomas. When the capsula itself is ruptured, the blood may either be encysted through the formation of peri-splenic adhesions or in the absence of adhesions, effuse freely into the peritoneum.

Finally, there may be what is called delayed or secondary hemorrhage. In such cases, the patient makes a rapid apparent recovery and there are no immediate symptoms of internal hemorrhage. However, after a period varying from hours to days, the patient especially after some exertion, some increase of intra-abdominal pressure, such as attends coughing, defecation, suddenly collapses with all the symptoms of intense internal hemorrhage. Rupture into the peritoneal cavity of a subcapsular hematoma (20) or the giving way of protecting perisplenic clots or adhesions may determine all the symptoms of acute anaemia.

Pitts and Ballance (18) in 1896 reported 17 cases of delayed hemorrhage after splenic ruptures. In the more recent literature, Schlegel (19) reports a case of splenic rupture in which 12 days intervened between the accident and the time of operation. In Cisler's (20) case, the interval was the same and the patient had left the hospital and had resumed his occupation. There were 11½ litres of blood in the abdomen following rupture into the peritoneal cavity of a splenic subcapsular hematoma. In Patel and Vergnory's (21) case, the free interval was 13 days and in Eisenklam's (22) case due to a fall out of bed the interval was 19 days, which is the longest I find recorded. In Eisenklam's case, the spleen presented a nine-centimeter gaping tear in its parenchyma. In this case, 19 days after the traumatism the stretched splenic capsule burst and there resulted pain and shock and an outflow of blood into the peritoneal cavity. Previous to the involvement of the peritoneum, the patient had experienced little or no discomfort.

Blood. In a few cases, diagnosis was based on the blood examination revealing a large fall in red blood corpuscles. Butler and Carlson (8) in 1926 reported 9 cases; in all the patients, except one, the leucocyte count was about 16,000. In the case reported by Koster (23) in which the patient was struck by an automo-

bile, the blood count showed R. B. C. 2,500,000, W.B.C. 12,200 and hemoglobin 35 per cent; and in all my cases, the red blood count was low.

Thoracic Injury. Chalier (12) in a recent article has drawn attention to the costal injuries so frequently associated with rupture of the spleen. When the injury is of a crushing injury, some of the ribs are likely to be fractured. The spleen is deeply imbedded under the diaphragmatic cupola and is protected by the inferior border of the thoracic cage. In order that a rupture be produced, Chalier thinks it is necessary that there be a concomitant lesion of the thorax which may amount to a fracture of the ribs and in the case reported by him (an automobile wreck case) and in some reported by other clinicians there was such an injury. Three of the 9 cases reported by Butler and Carlson showed such an injury; there was a rib fracture in one of my cases. In general, the literature shows that the possibility of such an associated injury has been frequently overlooked; it probably was present but not noticed in many of the recorded cases. It is stated to have been observed in from 10 to 15 per cent of the published cases.

Diagnosis

From the foregoing, it can easily be inferred that an exact preoperative diagnosis of splenic rupture is not always easy, is not always possible even though signs and symptoms may be very suggestive, very presumptive. Diagnosis ought to be based on the patient's previous state of health, the circumstances attending the injury and particularly on the mode and time of appearance, grouping and evolution of the symptoms. Although splenic rupture may follow any abdominal traumatism, it is more likely to occur if violences be applied either laterally on the external face of the base of the thorax or from the front backward on the anterior abdominal wall in the left superior quadrant.

Failure or delay in diagnosis aggravates the prognosis. In Berger's collection of cases, a pre-operative diagnosis was made in only 15 per cent. In 19 previously unpublished cases, observed either by Quenu and his colleagues, a clear diagnosis was made in 8 and a probable diagnosis in 3. In the 151 operated cases of traumatic splenic rupture which Quenu collected from the literature, an exact preoperative diagnosis was made in 43, and in 15 others a diagnosis of internal hemorrhage was made without precise location of the injured viscus. As a general rule, the exact diagnosis followed an exploratory laparotomy indicated by the symptoms of acute abdominal hemorrhage. In my own cases, the operative indication was internal abdominal hemorrhage, injury of the spleen being strongly suspected.

Quenu thinks that a diagnosis of traumatic splenic rupture can be made in the latent period, when a patient who has recently received an injury involving the left hypochondrium shows a certain sensitiveness in this region as well as a certain degree of persisting abdominal wall contraction, especially if the temperature keeps about 38° C.

Differential Diagnosis. Rupture of the liver may simulate splenic rupture especially in a child having a well-developed left lobe of the liver. Splenic rupture may simulate rupture of the left kidney, but the latter condition is associated with hematuria. Ruptured gastric ulcer is accompanied by more intense peritonitic phenomena and by frequent hematemesis. In a case reported by Wallace (24), the diagnosis was cholecystitis but in this case the splenic rupture had occurred two years before, following a blow from a car and the ribs had been fractured but the patient had recovered spontaneously. Moreover, the case was complicated as being

one of transposition of viscera. In women of the child-bearing age, a ruptured ectopic fatal sac would have to be excluded.

Evolution

When the rupture is not very extensive and only a small hematoma intra-splenic or peri-splenic results, the effused blood may in time become absorbed or encysted; it may initiate a fibrous tumor by organization of the clot; or it may undergo purulent transformation. In Wallace's case, above referred to, the ruptured spleen was found in a mass of adhesions; it was fibrous and atrophied.

When not very extensive, a rupture may heal spontaneously. (Descout) (25). Hueggler (26) at the autopsy of a patient who had died from a hepatic neoplasm 15 days after a splenic rupture, found the splenic tear closed by a resistant thrombus.

If a splenic rupture be left to its own evolution, the mortality varies from 38 to 90 per cent according to different statistics. Of 168 cases collected by Berger in 1907, 145 died the first day, the total result being due to hemorrhage in 90 per cent. The prognosis is much better in children; Fevrier (27) reported 15 cases occurring in patients under 20 years of age, 12 of these recovered. Quenu found that the mortality of splenic rupture treated by splenectomy in patients under 20 years old was only 14 per cent as compared with 32 per cent in patients above that age. Schlegel found 15 cases of splenic rupture treated by splenectomy within $1\frac{1}{2}$ to 12 days after the occurrence of the accident gave 12 recoveries (19). The condition of delayed hemorrhage has already been alluded to.

Complications.

Traumatic rupture of the spleen may be the only lesion present; it may be one of two or more near or distal associated lesions. Contusions, lacerations and ruptures of the left kidney, pancreas and liver are the most frequent complicating lesions. Chavannez and Guyot state that rupture of the left kidney has been found in 25 per cent of the reported cases of splenic rupture. Havlicek (15) and Zeano (29) each report a case of simultaneously ruptured spleen and pancreas. In these two patients, removal of the spleen was followed by recovery. Co-existing gastric, diaphragmatic or other injuries may aggravate the patient's condition.

Pathology.

In traumatic splenic rupture, the lesion may vary from a simple contusion characterized by sub-capsular ecchymoses and integrity of the capsule to multiple tears, T, Y-shaped or stellate fragmentation or even complete avulsion of the viscus from its vascular pedicle. There may be a crushing or a bursting of the organ. Pohl (30) in 1910 reported a successfully operated case in which a child $3\frac{1}{2}$ years old was crushed beneath the wheels of a carriage; the splenic vein alone was torn, the artery being uninjured.

In some cases, there is only an intrasplenic effusion of blood or a hematoma of greater or lesser volume which, as already stated, may form the starting point of a serious or fatal secondary hemorrhage. In splenic rupture proper, the capsule is usually torn and there may be detachment of a portion of the substance of the spleen into the abdominal cavity.

Opinions vary as to whether the internal or external face of the spleen is most usually injured; the

lower part of the spleen being least protected is more frequently the site of injury.

Treatment.

From the high mortality which attends the expectant treatment of splenic rupture, it is evident that the only effective treatment is operative. When a fairly probable diagnosis has been established delay is dangerous. A properly performed needless laparotomy is practically without dangers; a non-operatively treated splenic rupture is almost invariably fatal. Delay only serves to diminish chances which operative aid may have to offer. The surgical measures may be divided into conservative and radical procedures. The exposure of the spleen may be done under either paravertebral or general anaesthesia. A sand-bag is placed under the left side of the chest, so as to secure a better view of the left dome of the diaphragm.

The conservative measures applicable are cauterization, ligature of the splenic pedicle, tamponade and splenorrhaphy. Ligature of the vascular pedicle en masse, is liable to cause necrosis of the organ. It is to be rejected. If the splenic artery alone is ligated, atrophy of the parenchyma results. It may perhaps be employed when there are extensive vascular adhesions. Conditions very rarely warrant its performance.

Tamponade, though it may be quite effective in arresting hemorrhage, has two important drawbacks. At best, it is a very uncertain measure and it eventually leaves a weak spot in the abdominal wall. Tamponade either alone or combined with simple suturing, may be resorted to in cases of limited rupture or when the condition of the patient does not warrant a long operation. Berger's statistics included 10 cases of splenic rupture treated by tamponing with 1 death and Quenu gives 15 cases with 2 deaths.

Splenorrhaphy was first done by Lamarkia in 1896 and has been employed by many surgeons since then. Owing to the inaccessibility and friability of the spleen, it is generally a difficult operation; its general mortality has been reported as 50 per cent, but Willits in 1919, found it to be 25 per cent. If splenorrhaphy is done, the suture line should be covered with omentum as Gourrin (31) suggests, both for hemostasis and peritonization. It is only rarely practicable.

In general, splenectomy is the operation of choice in any important splenic rupture particularly a transverse rupture or in extensive lacerations. It insures complete and permanent hemostasis. In the absence of perisplenic adhesions it is of easy and rapid execution. Partial splenectomy is indicated when the lower pole of the spleen is completely detached and the remaining part integral.

A median incision may be employed for an exploratory laparotomy but the splenectomy (subcostal) incision may be used when a fairly precise diagnosis is made. It must be said, however, that the diagnosis is usually a probable diagnosis. To the median incision may be added a transverse incision extending towards the loin (3). An adequate incision is most serviceable in cases of associated visceral lesions. One must be careful in ligating the vessels at the hilus. Drainage weakens the abdominal wall; and in some cases predisposes to subphrenic suppuration. Post-operative blood transfusion is of great value not to injure the tail of the pancreas.

Splenectomy appears to have been first done by Roddick, in 1885, who removed the organ through a

small opening in the lumbar region. In Berger's statistics, 135 splenectomies gave a mortality of 38.7 per cent. Borgsitter in 1909, who collected 203 cases of splenectomy (not all traumatic cases), found the operative mortality of splenectomy to be 35.3 per cent. Willis in 1919 found that the mortality of splenectomy for traumatic rupture cases was 28.8 per cent. Schlegel states that in fifteen cases in which an interval varying from $1\frac{1}{2}$ to 12 days elapsed between the occurrence of the injury and the incidence operative relief, splenectomy gave 12 recoveries.

In the Mayo clinic (32) the mortality in 417 cases of splenectomy for all conditions, done from 1904 to 1926, is stated to have been 10.3 per cent. Only 10 of these were traumatic cases. According to Quenu, the general mortality of splenectomy for adults above 20 years old is 32 per cent and for individuals under 20 years 14 per cent. The operation can be successfully combined with nephrectomy as in Hersey's (33) case.

Is splenectomy, in the human subject, attended with lasting undesirable after-effects? This can be more intelligently answered after a brief enumeration of the function (33) of this organ. Removal of the organ means a temporary, a partial or complete abolition (35) of those functions partly or wholly dependent on the spleen. What are these functions?

a. During prenatal life the spleen participates in the formation of leucocytes and of red blood-cells. After birth, it takes part in the destruction of deteriorated or disintegrated red blood-cells. It has been called the "graveyard" of the red blood corpuscles. The liberated hemoglobin of the destroyed blood corpuscles is conveyed by the splenic vein to the liver and there transformed into bilirubin. According to some investigators, the liberated hemoglobin may be manufactured into bilirubin in the spleen itself.

b. It forms white blood corpuscles, particularly lymphocytes. A large number of lymphocytes are produced by the Malpighian bodies. "All the white blood-cells have defensive functions, especially the large mononuclear endothelial leucocytes," Mayo.

c. It assimilates iron and is a storehouse for it, especially the iron liberated from the decomposition of red blood-cells. The liver, on the contrary, is the storehouse of the iron ingested; it may partake of the spleen function. The spleen is regarded by some as the principal organ of the reticulo-endothelial system, playing a dominant role in iron metabolism.

d. It acts as a scavenger, as a filter, separating worn-out cells, infectious and toxic agents from the blood-stream. These, under normal conditions, are either destroyed by the phagocytic activities of the spleen or conveyed into the liver for destruction or detoxication. As the lymphatic glands act upon the lymphatic stream, so the spleen acts upon the blood brought to it. The chief function of the spleen is that of filtration.

e. It has some share in nitrogenous metabolism and it plays an important part in the digestion, consumption and utilization of food (Richet). During digestion, the spleen expands and contracts synchronously with the digestive periods. "That the spleen must be of some significance in digestion has been prompted by the gland's intimate anatomic connections with the portal system; its blood supply from the celiac axis, its proportionately excessive atrophy during starvation and inanition, and by references by many experimental investigators, as well as

by many clinicians, to a state of hunger and voracious appetite after splenectomy." (Kahn) 38.

f. It acts as a kind of vascular reservoir to the portal system and to the vessels of the stomach.

g. Under normal conditions, it produces blood-platelets.

h. It elaborates ferments, and also a hormone which has a stimulating action on bone marrow. By its pulp-cells, it influences blood pigments and metabolism. The bone-marrow is called the "cradle" of the red-blood corpuscles.

i. It is considered by some investigators as a member of the sympathetic endocrine system. It has no external secretion and it has not been demonstrated that it has an internal secretion.

Following the removal of the normal spleen as in traumatic rupture in splenic neoplasms, splenic prolapse, etc., certain changes usually occur. In cases in which these changes fail to develop, the existence of one or more accessory spleens may be suspected. After splenectomy, there is noted:

a. A secondary anemia due in part to the operative hemorrhage incident to splenectomy, and in part to the loss of the spleen.

b. An increased resistance of the red blood-cells to various hemolytic agents (hypotonic salt solution, hemolytic serum, etc.).

c. A lessened tendency to hemoglobinuria, to jaundice and sometimes even an absence of jaundice after the exhibition of hemolytic agents.

d. An increase in the total fat and cholesterol content of the blood which gradually decreases and returns to normal (Eppinger). This has been observed both in splenectomized dogs and in the human.

e. A transient decrease in the antiseptic and bactericidal properties of the blood serum which rapidly returns to the normal. The agglutinins and opsonins remain unaltered (Bucalossi). The bodily vigor and resistance are decreased.

f. Changes in the blood-picture which usually persists for several months (35, 38). The blood-picture usually returns gradually to normal. In some cases, the post-operative anemia is permanent (35).

1. Appearance of polycythemia, 5,500,000-7,000,000 per cu.m.

2. Numerical increase in lymphocytes and in eosinophiles.

3. Presence of nucleated red blood-cells.

4. Morphological changes in the red blood-cells.

g. A disturbance in the iron metabolism (36). An increased output of iron in the feces which wastes from four to six weeks.

h. An hypertrophy of remaining splenic fragments, of accessory spleen or spleens, even to the size of the normal spleen, a hyperplasia of the lymphatic glands of the greater curvature of the stomach and of the omentum, a hyperplasia of lymphoid tissue throughout the body, and an increase in the size of the liver. This hypertrophy compensates in time for the loss of the spleen.

i. A weakening of the digestive power for a period of several months. There is a temporary diminution in gastric secretion.

j. Owing to the release of the controlling influence of the splenic hormone, the bone-marrow functions to excess. It also changes from its normal yellow fatty character to a red cellular hyperplastic type.

k. A decrease of fat in the faeces.

The spleen is an important organ. Nevertheless, animal experiments and clinical observation amply show that splenectomy does not noticeably impair growth, reproductive power, general health, nor apparently shorten life expectancy. That this ductless gland, the largest in the body, is not as essential an organ as the liver, the thyroid gland, the pancreas or the adrenals, is evidenced by its rare absence at birth and by the survival of patients after its removal. After splenectomy, the functions of the organ are vicariously assumed by other elements of the reticulo-endothelial system. These elements are found in the sinuses of the lymph glands, in the capillaries of the liver lobules (stellate-cells of Kupfer) and of the bone-marrow, in the connective tissue (wandering cells), in the adrenal cortex, in the hypothesis, etc. The cells of the reticulo-endothelial system devour deteriorated blood-platelets, effete red and white blood corpuscles and metabolize all of these.

Accessory spleens occur; they vary in size, location and numbers (from one to twenty). In a patient operated (34) on for strangulated intestine, fifteen years after a splenectomy for splenic rupture, the following findings were noted: "The whole of the peritoneum covering the small intestine and mesentery was covered with small tumors, varying in size from that of a pins head to about one inch by half an inch. These tumors were either sessile or pedunculated, and appeared to have involved only the peritoneal covering of the gut. There were perhaps 200 to 300 tumors. The general appearance suggested splenic tissue; they appeared to be quite innocent in character. The microscopical examination by the Pathology Department, University of Sheffield, of one specimen removed for examination, showed that it was a small mass of splenic tissue, containing pulp with sinuses and Malpighian bodies. The whole structure presented a dense fibrous tissue capsule, and an increased amount of fibrous tissue in the trabeculae. In this case, evidently, at the time of splenic rupture living splenic cells were set free and implanted in the peritoneal cavity. The amount of splenic tissue so formed appeared to be quite equal to that in a normal spleen.

According to Koster, there appears to be some general compensatory lymph gland enlargement following splenectomy; Jolly and Lieure (39) have reported that in animals there is a possibility of a real regeneration of the spleen; and O'Connor (40) mentions the possibility of accessory spleens functioning after splenectomy.

Conclusions.

1. Traumatic rupture of the normal spleen is becoming more common with the increase of automobile accidents. Three personal cases of this kind are reported.

2. The symptoms of splenic rupture are in general not pathognomonic except perhaps Pitts and Ballance's sign of left-sided dullness and right-sided sonority on percussion.

3. The patient's safety lies in early and precise diagnosis, followed by immediate laparotomy and appropriate operative relief.

4. The prognosis in cases of splenic rupture left to their own evolution is extremely bad. In the

presence of splenic injury and severe internal hemorrhage, immediate or delayed, the most conservative form of treatment is early splenectomy. It secures complete and permanent hemostasis. It is a life-saving operation.

5. Removal of the ruptured normal spleen is usually an operation easy and rapid of execution. The removal of the pathological spleen embedded in or bound down by dense perisplenic adhesions may present great though not insuperable difficulties. Drainage is rarely indicated.

6. The operation of choice for important splenic rupture is splenectomy, performed under paravertebral or general anaesthesia. It is the present belief that splenectomy does not materially shorten the life of the individual. Earlier operation, improved technique and judicious postoperative treatment have lowered and improved the results of splenectomy.

58 E. Washington St.

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Isopropyl Alcohol as an Antiseptic Solvent

As the result of their investigations (I. A. M. A.) the following conclusions were arrived at. Iodine in a strength of 1.25 per cent solution is in itself an effective antiseptic, checking growth in test tubes promptly. Isopropyl alcohol is the most antiseptic of the solvents used in their experiments. A solution of iodine of the above percentage in isopropyl alcohol is not harmful to the skin and its penetrative powers are equal to those of ethyl alcohol, and its cost is very much less. These investigators, therefore, for these reasons strongly recommend iodine, 1.25 per cent, in 70 per cent isopropyl alcohol as an effective preoperative skin disinfectant for general use.—*The Canad. M. A. J.*, Oct., 1928.

Stuttering and Stammering

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Abroad, especially in Germany stuttering is considered to be difficult speech and stammering incorrect speech. In this country the former is described as reduplication of sound and the latter as hesitation in speaking. Others differentiate the conditions by attributing one to failure on the consonants and the other to failure on the vowels. None of these distinctions are true. We find reduplication and hesitation in the same individual and we find failure on both the vowels and the consonants in the same case. To call stammering incorrect speech is to confuse still more for this is really defective phonation. Inasmuch as the etiology, the pathology, the symptomatology and treatment is alike in both conditions the author considers stuttering and stammering synonymous terms.

Definition—Stuttering or stammering is a spastic co-ordination neurosis based on a mental conflict. The spasticity is evidenced by the spasms of the muscles. The incoordination is demonstrated by the inability to control and direct muscular movements involved in speech. It is a neurosis because it is mental or psychic in origin. It is based on a mental conflict because there is found a causative mental shock or psychic insult.

Incidence—A rough estimate places the number of school children in the United States who stutter at about one quarter of a million. In New York City about twenty-five per cent of the 800,000 school children have a speech disorder. Males are more prone to stutter in the ratio of from two to one to nine to one.

Etiology—The causes of stuttering are 1. Predisposing, 2. Exciting and 3. Aggravating. The predisposing causes are heredity and a neuropathic constitution. The exciting causes are nervous shock, psychic insult and imitation. Some of these causes are fright, operation, the psychoneurosis, and severe infections. The aggravating causes are pathologies in the ear, nose, throat and mouth such as cleft palate, hare lip, intranasal obstructions and defective dental arches.

Symptoms—A stutterer betrays himself as soon as he speaks but he is apt to falter on the sounds p, m, b, and w more than on the others. It should be remembered that the stutterer does not always stutter on the same sounds and that the character of the defect depends upon the emotional status at the time.

Other symptoms are jerky breathing due to spasms of the abdominal muscles and diaphragm, a hard monotonous voice due to spasm of the laryngeal muscles, tics and grimaces due to spasms of the external speech muscles, the use of starters, such as "er" and "well" and an undue rapidity of speech due to the nervous anxiety to get through.

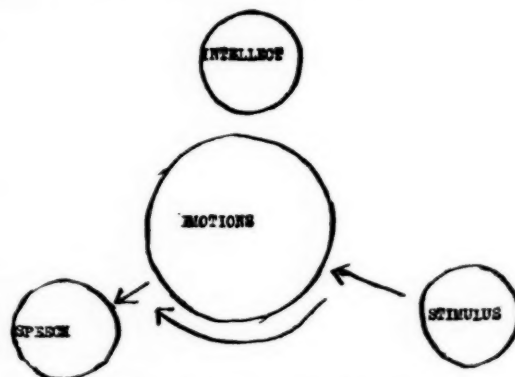
In addition there are behaviour disturbances ranging from timidity, fear of appearing ridiculous, lack of confidence, mental confusion, introspection, sadness, anti-social attitude, suicidal tendencies to criminality.

Finally there are the vasomotor changes; flushing of the cheeks, exaggerated dermatographia, increased pulse rate on talking and an exaggerated increase on stuttering, cardiac palpitation and profuse perspiration.

Prognosis—Stuttering is curable but it takes time and patience. Improvement at the end of six months is a favorable omen. No case should be undertaken unless the patient is willing to be treated for a period of not less than one year at intervals of at least twice a week.

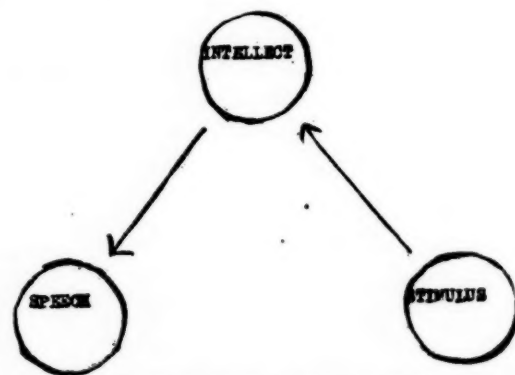
Treatment—The treatment is based upon a compre-

hension of the etiology and mechanism of speech. In the following drawing there is a schematic representation of the Normal Speech Reaction. There is a stimulus to speak. This travels along the afferent paths to the intellect and then along the efferent paths to the speech organs and normal speech is the result.



THE NORMAL SPEECH REACTION

In stuttering there is an emotional instability. This is represented in the following drawing. The passage of the impulse is shunted and instead of reaching the intellect it travels uncontrolled to the speech organs via the Emotions and the result is an emotionally defective speech or stuttering.



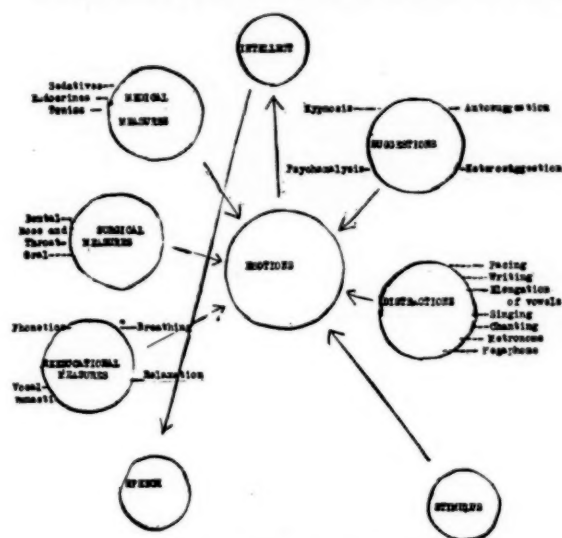
THE SPEECH REACTION IN STUTTERING

Assuming this mechanism to be true, the treatment must of necessity be directed towards overcoming or neutralizing the emotional obstacle. This is accomplished in the following drawing.

The medical treatment is directed towards overcoming the emotional instability, anemia, malnutrition and endocrine imbalances. The ordinary sedatives, tonics and gland products are used as indications arise.

Surgery removes the physical factors which act as aggravating causes. These are adenoids, abnormal length and thickness of the uvula, abnormal size and tumors of the tongue, cleft palate, hare lip imperfect dental arches, nasal polypi, hypertrophied turbinates, marked deviation of the septum, tongue tie and defective hearing.

The Psychotheapeutic treatment is considered in the above drawings in two divisions, suggestions and distractions. Stuttering has been defined as a spastic co-ordination neurosis based on a mental conflict. To de-



THE TREATMENT OF STUTTERING

termine the nature of this conflict psychoanalysis and hypnosis may be used. Suggestion is useful in creating a spirit of self confidence and assurance.

Distractions are employed to divert the attention of the stutterer from his speech. This can be accomplished by various means as pacing or writing while speaking, elongating the vowels, singing, chanting, speaking to the time of the metronome, speaking through a megaphone, change the voice on the various words and breath grouping.

The Reeducational Treatment consists of relaxation exercise to overcome the spasticity of the muscles, breathing exercise to correct improper voice production and engender proper breath control, vocal gymnastics to strengthen the muscles of speech and phonetics to teach the proper way of pronouncing the sounds the stutterer fails on.

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Municipal Death Rates

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Several years ago a Commissioner of Health in New York City wrote "Within certain limits a city may determine its own death rate." A truer assertion was never made. Except when severe epidemics sweep over communities, or when pandemics scourge the world, vital conditions in the various municipal centers of populations do not differ very materially. Old-age ailments run about the same and such communicable diseases as scarlet fever, whooping cough, measles, and typhoid fever extend rarely beyond the sporadic stage. With the preventive knowledge now at hand a pandemic other than that of the influenza would be a horrible crime.

Yet we find death rates in communities varying from 7 per thousand of population to more than twenty per thousand and, practically ninety per cent of the population of the United States live below an altitude of

1,000 feet above sea level. But death rates are high and they are also low both above and below the 1,000-foot contour. Altitude therefore as a factor may be neglected. Temperature from north to south varies from approximately from 70° to 83° as to summer but it is not the important factor. In the great central means, and this fact probably influences the death rate, plain of the United States river bottom lands are more subject to malarial fevers than are the bluff lands, and that fact influences the death rate to a measurable extent.

The factors of greatest importance in the health of a municipality, however, are the care exercised in its food and water supply. More than a year ago I pointed out the difference in the death rates of cities having effective purification systems for their water supplies with those merely employing filtration methods. The death rates of about a dozen cities having chlorination systems were compared with those depending only on filtration. Death rates in the latter were from fifty to more than one hundred percent greater than in the municipalities having effective purification systems.

A recent health survey of the city of Mount Vernon presents figures worth a moment's inspection. The figures cover a period from 1900 to 1926, complete figures for 1927 not yet being available. Mount Vernon became an incorporated city thirty-six years ago, and its health department was in full operation in 1900. At the time of incorporation the water supply was derived from surface sources scattered about Westchester County. In time the various water supply companies were consolidated. The city now owns its water mains and water, twice chlorinated, is taken from the sources that supply New York City. The table following shows the gradual reduction of the death rate per thousand of population in the interim. There could be no stronger argument for effective inspection of water and food-stuffs.

1900	18.7	1914	10.7
1901	17.6	1915	11.1
1902	14.4	1916	11.7
1903	11.2	1917	10.6
1904	13.0	1918	14.3
1905	13.0	1919	11.1
1906	15.3	1920	12.1
1907	14.7	1921	9.1
1908	13.5	1922	10.5
1909	13.1	1923	9.5
1910	13.9	1924	9.0
1911	12.8	1925	9.0
1912	11.9	1926	10.5
1913	13.1		

Milk inspection is equally as important as is the case given to water. It has been a factor not only in reducing infant mortality nearly three-fourths, but one may reasonably suspect that it has been likewise a factor in reducing the deaths from tuberculosis. In the five years ending 1904 the death rate therefrom per 100,000 of population was 143.5; in the five years ending 1924 it was 39.6. Only one city in Westchester county, Portchester, has a lower record of deaths from tuberculosis.

If human life is worth anything the city health officer is the most important factor in urban life. If an average of 35,000 be taken as the population of the city, in a period of twenty-five years the saving in that period of time exceeds three thousand lives. The salary of the mayors of the city has been jacked up several times; the salary of the health officer in most cities of the size of Mount Vernon is about that of the ordinary traveling salesman. A community gets the administration it deserves but not necessarily one that it needs.

Clinical Experience with Evaporated Milk as a Source of Food Supply in 175 Artificially Fed Sucklings*

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The time has long since passed when a scheme or method of feeding infants artificially may be presented as the final word. Those who have lived through the whole or even a part of the metamorphosis of this subject have so frequently been disillusioned by the innumerable panaceas offered that their scepticism in reference to any new suggestions might well be received with sympathy. This paper has to do, not with the presentation of any such new method but with a discussion as to the choice of milks—of a source of food supply. It will attempt to evaluate an experience, covering a little less than two years, culled from approximately 175 private and hospital feeding cases, wherein unsweetened evaporated milk constituted the sole source of milk supply.

While it will be necessary to present, in passing, the manner in which this milk was employed, in order to elucidate the topic herein discussed, it cannot be too strongly emphasized that any other method of employing evaporated milk in infant feeding familiar to or adopted by the physician will answer just as well. In fact, one of the important assets of this milk is its adaptability to any and all methods now employed, from the oldest to the most ultra modern. A food or a source of food (milk) supply is being discussed—not a method of using it. In a word a method of feeding infants is not being presented.

Nature of Evaporated Milk.

Unsweetened Evaporated Milk must not be confused with condensed milk. It is whole milk, presumably from healthy cattle, reduced to half its volume or a little less by evaporation by a high degree of heat at 10 to 11 lbs. of pressure for a period of about 15 minutes. Neither sugar nor preservatives are added. It is marketed in sterilized tins of varying sizes and is carried on the shelves of all grocery shops. It must contain not less than 7.8% fat nor less than 25.5% of remaining solids. The total solids therefore may not be less than 33.3%. It is slightly yellow, of a thicker consistency than plain whole milk and has a not unpleasant cooked flavor. It is sterile, which is one of its great advantages, is of uniform composition, another asset, and upon standing the cream does not separate. This is due to the homogenization of the fat—a process whereby the large fat globules of cow's milk are, by reason of the high degree of heat and high pressure to which the milk is subjected in the process of manufacture, broken up into very fine particles or globules. While not chemically a process of emulsification due to saponification physically the effects are almost the same as far as the smaller, finer, less resisting fat globules are thus rendered more accessible to the digestive juices. This phenomenon is by no means the least of the advantages of evaporated milk from the standpoint of digestion and assimilation by the infantile digestive apparatus. Complete digestion of the fat is practically assured and the irritating effect of free fatty acids, so troublesome with ordinary milk, is eliminated. This fact has a far reaching therapeutic advantage in the management of acute alimentary disturbances (diarrhea) and explains why, in these cases, the mere substitution of evaporated milk

for ordinary milk, not only does not increase the trouble but almost constantly eliminates it.

The protein (curd) constituent, by reason of the high degree of temperature to which the whole milk has been subjected, is caused, by the action of the digestive ferments, to coagulate into fine, feathery flocculi, closely resembling those of mother's milk. This is even true of the undiluted product in its response to acidification and to ferments both in vitro and in the human stomach. In this respect there is perhaps no other milk product which so closely resembles human milk. So true is this that it is not an uncommon experience to note normal stools in practically new born infants who have been fed this substance undiluted.

The sugar remains unchanged by the high heat to which the milk has been subjected. The mineral constituents remain practically unaffected by the heating except that some of the calcium and phosphates are lost because they are precipitated as an insoluble phosphate by the excessive heat.

The reaction of evaporated milk is the same as that of cow's milk.

Immune bodies, which exist in meagre proportion in ordinary cow's milk are totally destroyed by the heating process.

Bacterial Constituents. Theoretically and practically evaporated milk contains neither micro-organisms nor viable spores. Dependence upon its sterility may, however, only be placed on the milk in unopened cans. As soon as the can has been opened the same sources of contamination are operative as in the case of whole milk and the same precautions must be employed as to sterilization of utensils and of other contacts, diluents, etc., and as to refrigeration, once the formula has been prepared. A fresh can or more, as needed, must be opened daily. The product is extremely inexpensive, requires no refrigeration until used and for this reason forms a valuable source of milk supply for the poor, and for institutions where many infants are to be housed and fed and also when travelling.

Chemical Composition and Food Value.

The chemical composition of whole milk is variously stated. An analysis as acceptable as any is as follows. P. 4.5%, F. 4%, C. 4%, Salts 0.75%, Water 86.75%, T. S. 13.25%. For our purpose and for all practical uses only the Protein, Fat and Carbohydrate need be considered. For years, regarding the matter purely for clinical purposes and as a basis for calculation to check up on a feeding formula I have regarded whole milk as a 4, 4, 4 mixture (P. 4%—F. 4%—C. 4%). Evaporated milk, being condensed to at least half the volume of whole milk may therefore be regarded as an 8, 8, 8 mixture (P. 8%—F. 8%—C. 8%). This is not exactly accurate but as a basis for calculation for those who desire to check up on the percentage composition of any particular formula will serve all practical purposes.

Further on account of the condensation of whole milk by reason of the process of evaporation of the water content evaporated milk may roughly be regarded as having a caloric value of 40-44 or twice that of whole milk (20-22).

*Read before Philadelphia Pediatric Society, Dec. 11, 1928.

Vitamin Content.

Sufficient evidence has accumulated by reason of the investigations of Daniels and Loughlin, McCallum and Simonds, Dutcher, Francis and Combs, Rosenau, Johnson and Norton, Majonnier and Troy, Moore and Jackson, that vitamins A, B, and D are unaffected by heating as carried out in the process of manufacturing evaporated milk. Vitamin C, already deficient in raw milk, is further reduced or destroyed by heating but inasmuch as it is customary to provide this substance in orange or tomato juice, its known deficiency in evaporated milk is of no consequence. For those who are fanatical believers in the specificity of cod liver oil and more lately in irradiated ergosterol and the Alpine Sun lamp in rickets, a baby, fed on evaporated milk, would, in no wise, suffer for the lack of these agents any more than would one fed upon raw milk.

Method of Use.

In this experience the following method of procedure was employed in preparing the milk for consumption except in special instances which will be noted. Infants were allowed from 45 to 50 calories per pound per diem except in weaklings, prematures and new borns. These were allowed from 60 to 80 calories per pound as the conditions seemed to indicate and in some cases 100 calories per pound were allowed. This allowance was also varied according to appetite, vomiting etc. One ounce of sugar (cane) was added to the mixture unless the indications seemed to call for more or less carbohydrate. From 2-3 ounces of water per pound were employed as a rule, including that contained in the evaporated milk and calculated as about 40% of the entire amount of evaporated milk used in the mixture. If the total quantity was too great, then the water was reduced and the other necessary water was given between meals if the infant desired it. Where appetite was poor and the infant left part of the bottle the water was also reduced. When water was used it was always boiled. In some cases the water was reduced to $\frac{1}{2}$ ounce per pound per diem and in a few instances the milk was fed undiluted without any appreciable effect on either the gastric or intestinal digestion, the stools remaining normal and vomiting occurred but seldom. Where it seemed needed part boiled water and part lime water were used. In other cases barley water or other cereal decoction was substituted as diluent. In yet others vegetable broth. In others lactic acid, after the method of Marriot was added. Egg yellow was employed as indicated and though not used in this experience evaporated milk could form the basis of a formula for those who prefer to add either lemon juice or orange juice or acetic acid or hydrochloric acid directly to their formulas. Also these milk formulas could be pancreatized (peptonized) or additional protein could be added (Casec, Larusan, Merrell Soule Albumen Milk, etc., etc.) or the evaporated milk could be used in conjunction with Malt Soup Extract. There is no objection for those who advocate it, even to add cod liver oil to the mixtures, although personally I do not so employ cod liver oil. Thus it is seen that with this staple agent as a basis any combination or method of feeding could be pursued illustrating again that this experience exemplifies the use of a particular milk supply and does not stress a method of feeding.

As an illustration however as to the manner in which the evaporated milk was generally employed in this clinical trial the following is submitted for a baby weighing 10 pounds.

10 x 50	500
cane sugar 1 oz.	120

Evap. milk $9\frac{1}{2}$ oz.	380
	380

Boiled water $20\frac{1}{2}$ oz.

Salt pinch

7 bottles. Feed 6-9-12-3-6-10-2.

$\frac{1}{2}$ oz. orange juice at 5 a. m. or one hour before any feeding. This formula would give approximately P. 2.50%, F. 2.50% and C. 5.83%.

Even though the fat of evaporated milk is well tolerated as a rule, there are instances, especially of vomiting, where it is desirable to reduce the fat or to eliminate it altogether. This cannot be done with evaporated milk. What is needed is that there should be made available a pure evaporated skim or fat free milk. The writer took this up with one of the commercial houses but they could not see their way clear to market such a product by reason of the absence of a demand. Pancreatization of the formula or the addition of lime water is frequently of assistance in this respect. Weak acidification, an entirely opposite procedure, with lactic acid after the manner of Marriot but to a lesser degree may also, in some cases, overcome this difficulty.

In this experience all types of infants were included and all ages from birth up to one year or older received this milk. Some infants were normal in every way, having simply been deprived of mother's milk. Others were ill. Some had diarrhea, some were constipated, some were normal in weight, some were underweight. I should say in this respect there were about 50% of each. Some had rickets, some did not. None had scurvy. Some had parenteral infections. Others did not. Some developed such an infection during the course of the feeding. The most common of such infections were bronchitis, otitis media, furunculosis, mastoiditis, broncho and lobar pneumonia, pyelitis. Some of the babies were new born. There were 5 or 6 prematures, the smallest weighing $3\frac{1}{2}$ lbs. In other words wherever, in this series, additional milk was needed to either supplant or supplement the maternal milk, unsweetened evaporated milk was used as the source of the milk supply.

In judging of the progress of any nutritional problem in either a normal infant or in one suffering from either an acute or chronic alimentary disturbance or from a tissue imbalance, due either to a primary food injury or deficiency or to a parenteral infection certain criteria must be emphasized as guide points. Of these the most important are stools, vomiting, weight, gain or loss, tissue turgor, color, rickets and scurvy.

Stools.

In the majority of instances an almost dramatic change for the better occurs in the stools, especially where fermentation and diarrhea present themselves. Within twenty-four hours or so the stools become free of visible water, are of mushy consistency, yellow in color, without mucous and are reduced in number and may even become constipated. This is always a desirable feature in the bottle fed. They are homogenous and are either slightly acid, more often neutral or alkaline and are free of disagreeable odor. In some cases sugar was omitted from the formula, saccharin being substituted, bitter cocoa was added as well as 3i to 3j of powdered casein. This combination gives a particularly happy and quick response in the early management of summer diarrhea. Rapidity of action for the better is often enhanced where barley water and lime water

are employed as diluents or when 5 or 10 grains of prepared chalk are added to each bottle. All this latter it is recognized is contrary to the modern teaching of the baneful effects of the excess of buffer substances already in cow's milk and existing as well in evaporated milk though to a lesser degree because part of the calcium and phosphate with a consequent reduction in the phosphate as compared to mother's milk is precipitated by the heating process. Nevertheless it is true, the popularity of acidified milk to the contrary notwithstanding.

A fine effect on the stools of the new born breast fed infant or in the premature fed by dropper with manually expressed human milk was noted when 5 to 15 drops of evaporated milk were added to every ounce of breast milk fed. In fact the so called normal indigestion of the breast fed did not occur and the initial loss of weight during the first week did not occur or was considerably curtailed. This is a very important desideratum in the management of the underweight premature where ounces have the importance of pounds and my experience in this respect makes me feel that the beneficial effects of evaporated milk in thus modifying and reinforcing colostrum should not be lightly regarded but should become a regular routine in maternity wards. If mucous and curds can be thus readily eliminated during the first week of life infant morbidity and mortality, especially in prematures and weaklings, will be materially reduced. If it did nothing else than change the character of the stools it would be worth while and this it will certainly do.

There can be no doubt, that, as previously stated, this good effect upon stools, is due to the homogenization of the fat, insuring its complete digestion thereby causing the practical elimination of the trouble producing volatile fatty acids, so commonly met by reason of their only partial digestion, when raw or even ordinarily cooked milk formulas are employed.

Vomiting.

Because of the homogenization of the fat and because of the finer and softer curd, vomiting occurs with less frequency in infants fed with evaporated milk. Where appetite is poor, where only a small bulk is needed or where for any reason it is necessary to concentrate the food evaporated milk offers many advantages over raw or boiled milk in this respect. So true is this that many cases were met wherein the evaporated milk was successfully employed when diluted with but its own volume of diluent or half of this or even fed undiluted when raw or boiled milk formulas were expelled. This fact is likewise of great importance in the management of prematures or weaklings. In pyloric obstruction the thick cereal feeding may be many times reinforced in food value where for instance one ounce of evaporated milk takes the place of 4 ounces of skim milk or of two ounces of whole milk.

Weight.

In the absence of parenteral infection it was noted that all the babies of this series of cases gained from 4 to 8 ounces per week.

Tissue Turgor and Color.

Once digestive disturbances became corrected and parenteral infections abated, all these babies exhibited a fine tissue turgor and splendid color. The skin was full and elastic and the flesh felt hard and firm.

Rickets and Scurvy.

No cases of scurvy were encountered throughout this series. None were presented originally and none developed. All these babies received orange juice. From my experience I would not hesitate to place an infant

with scurvy upon evaporated milk. It is admitted that the heating destroys the vitamin C. It exists but meagerly in raw cow's milk and not at all or very feebly in boiled milk. All artificially fed infants must receive some anti-scorbutic besides the milk formula.

I have never been strongly moved by the claims made for cod liver oil as a specific in either the cure or the prevention of rickets in spite of apparently convincing animal experimentation to the contrary. My mind is still open on the subject and also in respect to the Alpine Sun ray and the more recent irradiated ergosterol. Be this heresy or not this paper is not the place wherein to more accurately define my position. Suffice it to say that none of these babies received cod liver oil and only a small majority were exposed to the Alpine Sun ray and none developed rickets and all of them were under observation at least six months and some for one year with perhaps the exception of a few hospital cases which were observed for not less than three months. This does not mean that evaporated milk prevented rickets or cured it. It simply means that it did not produce it. This experience is not unique as far as milk is concerned. For years I have fed both breast and bottle babies without cod liver oil and the incidence of rickets in my private practice in cases that have been under my care since birth or near it has been extremely meagre. Admittedly not all of my cases were subjected to x-ray studies of their bones, not all had blood calcium and phosphorus estimations made. When I say they did not develop rickets I mean that they did not develop any of the criteria of clinical rickets. The cause for rickets in my judgment has not been plumbed. This opinion is based upon an intimate experience with clinical pediatrics covering a period of 28 years and which began when it was a confession of ignorance almost a disgrace to administer cod liver oil and which has continued up till now when it is considered a disgrace not to give it. I am bold to state that it is my belief that some day it will be shown that, in the prevention and cure of rickets, more important than natural or artificial sunlight, more important than cod liver oil and irradiated ergosterol and their contained vitamin D. is a continuance of perfect or normal intestinal digestion over a long period of time.

Conclusions.

1. Unsweetened evaporated milk may not be regarded as a proprietary food.
2. It is sterile, the fat is homogenized. It and the protein are made more digestible and the milk is uniform in composition.
3. The vitamins, except vitamin C. are not destroyed.
4. It is a corrective of intestinal fermentation.
5. It does not induce vomiting.
6. It is useful when food concentration is needed.
7. It does not cause rickets.
8. It may cause scurvy, if used without an anti-scorbutic.
9. It is adaptable to any method of feeding employed.
10. It is a useful modifier of colostrum and of mother's milk.
11. Gain in weight, tissue turgor and color are as well maintained when this milk is employed as a source of food supply as when any other milk is used with the exception perhaps of skim milk and boiled butter, this latter preparation having given me the finest, sturdiest, hardest and best colored babies which have been artificially fed which I have seen.
12. It is cheap and always available.

(Concluded on page 89)

"Varicella and its Complications"

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In this paper I shall mention a few of the simple complications of this disease as well as the more dangerous and sometimes fatal complications.

We cannot but be impressed with the close resemblance between varicella and variola. The incubation period of both is practically identical. The rash and symptoms are similar in severe attacks of Chicken Pox and mild attacks of Small Pox. In fact time and again I have seen experienced physicians disagree in a diagnosis, and it is still a doubtful question as to who made the correct diagnosis. I have seen patients who to all appearances have had so called varicella run a temperature for two weeks and come out of isolation with a face permanently marked.

The vesicles are often umbilicated as in small pox. I hold that vaccination will not protect one against chicken pox, and further, that an attack of either disease will not render one immune against an attack of the other. It is well known that para-typhoid will not protect against an attack of typhoid fever. In fact varicella bears very much the same relationship to variola, as para-typhoid does to typhoid fever.

I shall first of all mention a few of the well known complications and sequelae of varicella, and shall then report the rarer and mixed infection cases.

I am not surprised that we meet with cases of mixed infection in this disease, as many of the little patients will infect the vesicles with their finger nails. Fortunately the injury involved is not virulent as a rule. Whilst in other cases we have to deal with a most virulent organism which we have not yet isolated.

The following complications are not common, but do occur at times:

- 1 ACUTE NEPHRITIS is not common, but comes on early in the disease and must be treated promptly, or it may advance to a chronic condition.
- 2 PERIPHERAL NEURITIS this is motor type and is fairly common in Diphtheria, and I have also met with it as a complication of measles if it complicates varicella or measles we can look for a perfect cure and as a rule the same applies to diphtheria, provided the heart muscle is not involved. This condition can be demonstrated in diphtheria by taking the blood pressure. In diphtheritic paralysis we have two indications *a* Low systolic blood pressure pointing to a degenerative processes taking place in the cardiac muscle. *b* The loss of the patellar reflex. This was pointed out about thirty two years ago by the late Dr. MacDonnell of Montreal.
- 3 *c* The third complication of varicella is due to infection by a non-virulent organism a staphylococcus infection of the vesicles, which becomes red and inflamed. However, it is not a serious complication.

We now come to the serious complications of varicella, which are caused by the accidental entrance into the system of a virulent micro-organism. In this group we will place the following:—

- 1 Varicella complicated with purpura haemorrhagica fulminans and death.
- 2 Varicella complicated with hyperpyrexia and death.
- 3 Varicella complicated with local gangrene. Varicella gangrenosa localis.

4 Varicella complicated with universal gangrene. Varicella gangrenosa universalis.

5 Varicella complicated with scarlet fever due to crossed infection.

6 Varicella followed by pemphigus.

7 Varicella complicated with and the course of the disease modified by Icterus, occurring at the same time as the vesicles made their appearance.

(1) VARICELLA COMPLICATED WITH PURPURA HAEMORRHAGICA FULMINANS AND DEATH.

The young girl who contracted this disease was a healthy robust child of twelve years of age. Two days before I was consulted, she developed a mild attack of varicella. However, one vesicle on her heel gave her trouble, it became inflamed and red and discharged pus. On the day of her death, she and her sister had a little party. In the afternoon at about 5.30 p.m. I was asked to see the child, as she was not feeling well. At about 6 p.m. I made an examination and noted the following: The girl was strong and well built, looking more like a girl of fourteen years of age. Her body was well sprinkled with vesicles of varicella and also with purpuric spots about the size of a bean, all the nodes were enlarged, and the temperature was about 103.2 she felt very ill. I telephoned to Dr. A. D. Blackader to ask him to kindly see the case with me. We consulted together at about 7.15 p.m. By this time the little girl started to vomit up red blood, and had haemorrhages from her bladder and vagina. She became restless, throwing her arms about, and complaining of a pain in her head. This all indicated haemorrhage into the brain. Convulsions next set in and were continuous; at about 10.45 p.m. she became profoundly unconscious, and death took place at about 11.45 p.m.

The fatal termination took place in about six hours after the onset of serious symptoms from cerebral haemorrhage. This is a most rare and unusual condition, and it is questionable what form of organism was responsible for the condition, but death was most likely due to some form of streptococcus. The site of infection must have been from the suppurating vesicle on the heel.

Rather a strange coincidence is that a few days before this child developed chicken pox, I had treated one of her father's employees for haemorrhagic measles.

(2) VARICELLA COMPLICATED WITH HYPERPYREXIA AND DEATH.

This condition is rare, but it is liable to complicate rarely any one of exanthemata. A short time ago one of my little patients suffered from an ordinary attack of mumps. On the sixth day of the disease his temperature suddenly ran up to 107.2 and despite all efforts the little patient only lived a few hours after the rise of temperature.

This hyperpyrexia is no doubt due to some secondary infection.

(3) VARICELLA COMPLICATED WITH LOCAL GANGRENE. VARICELLA GANGRENOUSA LOCALIS.

During convalescence from varicella, two or three or more of the vesicles after forming pustules become gangrenous. These spots may be as small as a bean or as large as a walnut. A slough forms which after a

few days time leaves a fairly large sore. Ulceration takes place through the true skin and sometimes haemorrhage may take place from the sides or base of the ulcer. The surrounding tissues are red and inflamed, a scar is formed which may be fairly large. This sloughing or gangrenous condition is caused by a thrombus which forms in its nutrient vessel.

(4) VARICELLA COMPLICATED WITH UNIVERSAL OR THE SKIN VARICELLA GANGRENOUSA UNIVERSALIS

It will be understood that the term local and universal apply to the skin only. This is a septic condition which occurs in most of the varicella vesicles. The whole surface of the skin is scattered with deep ulcerations. If these ulcerations are over a joint or at the angles of the mouth or over an eye lid they may cause great deformity. I have only had one case of this disease. The following is the report.

This young man of twenty years of age consulted me on May 26th 1910, he complained that he had a rash on his body. On examination I discovered him to be suffering from a typical attack of varicella. Numerous vesicles were found on his head, arms and forehead, and his temperature was slightly over 100. He had been nauseated during the day, but felt quite well. He was advised to remain in the house and report how he was progressing. I was called to see him again on June 12th and the following condition noted.

Practically his whole body was covered with vesicles and many of the vesicles which had primarily been typical varicella vesicles enlarged, and ranged in size from that of a five cent piece to that of a 25ct. piece. His temperature was 100.2 Dr. Coyle our health officer, was called in, and the patient was isolated; many of the vesicles had ruptured, and were covered with a scab. In fact, they took on exactly the same course as ordinary varicella vesicles. On June 19th he felt well, had a good appetite and his temperature was normal.

CHARACTER AND SITE OF THE RASH ON JUNE 24

The primary vesicles had already ruptured but on the above date the head and abdomen as well as the back were covered with small vesicles about the size of a bean. They were full of turbid serum, and none of them appeared pustular. There were hundreds of vesicles and they were also to be found on the arms, thighs, legs, hands and face. June 26th. On different parts of the body were found small punched out ulcers mostly on the back and on the arms. A larger one was to be found on the upper left eyelid. Ulcers measuring from half an inch to two and a half inches had formed, each ulcer encircled by a red and thickened border.

Most of the ulcers presented a granulating base, there was no scabbing but a few of them discharged pus. In many the thickened and reddened border was breaking down, and a large gangrenous ulcer formed. Many of the vesicles were scabbing over, the vesicles becoming pustular in about sixteen days.

On June 28th, the body was practically covered with these gangrenous spots of various sizes. Ulcers were forming, and large cicatrices were to be found over many of the joints including the ankles. They interfered with locomotion, but his temperature was normal, and his appetite was fair.

The young man moved out West, and I have had no further news about his condition. His body will be covered with scars which will be permanent.

I look upon this as a case of varicella gone wrong, through the double infection of the varicella organism and some pus forming micro-organism.

The blood count:—
Red cells—5,040,000

White cells—17,800

The difference in count shows nothing striking.

Pus showed the presence of numerous long diplococci, the diplococci are granulated and negative (gram).

Cultures yielded a scanty growth.

The above is an abbreviated report of Dr. Oscar Gruner. No spirochete were found, I look upon this as a case of "*Varicella Gangrenosa Universalis*."

I differentiate it from variola by the following:—

a There was no smallpox in the city or vicinity.

b No one contracted the disease from him.

c There was no secondary fever.

d There was no back ache, no high temperature, and no severe symptoms.

If it has been smallpox with such an extensive rash, he would have been very ill.

e The rash did not at any period of the trouble present a shotty feeling.

The case was not syphilis as he never had a primary sore, and the rash was not like any type of acquired syphilis or of the congenital form of this disease, and no spirochete were found. We got a weak Wassermann's reaction, but that is not uncommon owing to the fact that the White cell count was over 17,000.

This is not pemphigus, as it had at no time resembled the rash of pemphigus, and further it did not run the course of a pemphigoid eruption.

(5) VARICELLA ASSOCIATED WITH SCARLET FEVER

I have met with many such cases of crossed infection. Most of them developed this condition during the period of desquamation, as the primary disease was scarlet fever in every instance. The children are not very ill, but we get more or less deep ulcerations resembling those found in varicella gangrenosa localis, however, the ulcers are not so deep. There is a red areola around each spot. The skin has been in no condition to become affected by such a disease as varicella, and the result is that we may have four or five scars similar to those we get in variola.

(6) ASSOCIATION OF VARICELLA WITH ICETERUS

This is an unique condition. I have met with one case. The Ticterus was the primary trouble in this case, and shortly after the development of the icterus, the patient contracted varicella from one of her two little sisters. The varicella vesicles came out like ordinary spots, each vesicle being full of white serum. After two days the white serum changed to a yellow colour and yellowish scabs formed on the vesicles; these yellow scabs were numerous. They were to be found on the back, on the head, abdomen and on the legs, most of them presented a dark yellow colour, whilst others were of a light or brighter colour. Convalescence took longer than it would in ordinary cases of varicella. The scabs remained on longer, and when taken off with the finger resulted in a scar.

I tried to produce blue vesicles in little patients who were incubating varicella by giving them methylene blue tablets but nothing resulted.

PEMPHIGUS FOLLOWING VARICELLA

This little girl of fifteen months of age had varicella about eighteen to nineteen days ago. When she had quite recovered from the varicella, pemphigus developed. On examining the child I found one large pemphigus spot on the left cheek, reaching from the lower eyelid to the front of the ear; there was one on the forehead also about the size of a fifty cent piece. There was one on the chin, one on the upper lip, and one in the temple region. The child was very ill with a temp-

perature of 101 degrees and a pulse of 132.

For other well-known complications of vericella, the reader is referred to text book on children's diseases. I may add I have endeavored to reproduce chicken

pox in a macacus rhesus monkey and in a calf with an organism that I had recovered. The results are not definite enough to be encouraging.

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Rectal Diseases and Their Consequent Reflexes

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There is no class of disease that is more definite and extensive in its sympathetic influence than rectal disease. This is due largely, if not wholly, to anatomical relationships with the sacral plexus of nerves, spinal cord and the brain.

If the surgeon who wishes to do rectal work will only qualify himself in diagnosis and careful operative technique, he will be able to produce not only desired relief, but permanent results with very few exceptions. It is highly gratifying to me to realize more interest is being manifested in proctology today by the general surgeon, as well as the internist or physical diagnostician, than ever before. They are progressing nicely in the way of qualifying themselves in proctology to make a correct examination and diagnosis, which, if supported by efficient treatment and operative technique by the surgeon, followed by daily post-operative dressings and care, will be followed by results that will be gratifying to both patient and surgeon.

It is a recognized fact among proctologists that diseases of the rectum have been treated in previous years, and are to a certain extent today, with unpardonable indifference, and it is for that very reason the average general surgeon meets with such deplorable results in most of his cases, and as a consequence reflects a bad influence upon every doctor who is doing rectal surgery, whether he be general surgeon or specialist it matters not, and serves as a whip in the hands of the unethical, or, plainly speaking, advertising quacks, to drive the unfortunate patient who has been unsuccessfully operated into their hands believing it to be a last resort to obtain relief. Laymen are not in a position to differentiate between surgeons as to their ability and efficiency. They have limited opportunity for knowing about the various and many diseases that come under the head of proctology, hence, they are very easily lead astray or preyed upon as a commercial commodity by the unethical. If the operative procedures in these rectal cases were properly executed, we would very soon see a decided reduction in the rich harvest that is being indulged in by the charlatans throughout the country.

May I refer briefly to just two very common reflexes from rectal pathology, lumbago and sciatica. They are manifested in, and super-induced by obstipation (or rectal obstruction), interfering with normal fecal flow and preventing complete defecation. The retained feces if allowed to become hardened or nodulated will by pressure, in most cases, produce congestion of the sacral tissues and nerves, reflecting lumbar and sciatic pain. The intensity of pain is measured largely by the extent of trauma, location of pressure, and the general condition of the patient. In many cases of decided reflex pain, the rectal symptomatology is nil, but, upon careful digital examination, the evidence will be convincing of rectal involvement, and to produce permanent relief, outside of malignancy, means surgical interference.

This is just a brief review of rectal reflexes. The field is so great and ramifying, its influence may be felt from the crown of the head to the sole of the feet. To go into the subject fully and thoroughly would require many

pages. I think I am conservative when I say 90% of all cases of constipation are obstipation, and the obstruction with comparatively few exceptions will be found in the rectum. It can be accompanied by pain, or no pain at all, or protrusion; just depends upon location of pressure.

In the examination of any rectal case, regardless of history and symptoms, first palpate the tissues at the recto-sigmoid juncture with the index finger, where we find most of our rectal cancers. The nodulation of carcinoma can be detected in its early development by palpation, when the strongest, electric lighted sigmoidoscope will reveal nothing. This palpation can be accomplished by reaching high with the index finger, forcing the anus well into the pelvic cavity so the index can reach the recto-sigmoid curve and feel the nodulation beneath the surface. In other words first eliminate any possibility of malignancy at this location, then, proceed to make examination from observation through a slender, bivalve speculum, six inches in length, and all diseased tissue can easily be detected.

The abnormal conditions most commonly found are as follows: Rectal ulcers, internal hemorrhoids, fistulae, rectal polypi, hypertrophied crypts, intussusception of rectal mucosa, rectal adenoma, villous growth, submucous fistula, prostatic enlargement, perirectal abscess, ischiorectal abscess, anal thrombus, and many others.

I regret to say the average surgeon attempts to relieve the offending or painful thing without removing the cause and lets the patients think he has cured them. Within a short time they usually have a recurrence and they think their former rectal trouble has returned, where if the true facts in the case were known, they were never operated properly in the first place. If the surgeon would explain to the patients when he removes these offending things, or does any incomplete rectal operation, that it is only temporary relief he has given them, then the patients would not be deceived. When these cases reach the proctologist, they usually give a history of cure by some good, reputable surgeon, but their trouble has returned worse than ever. Explain to the patient the importance of having the work done properly, then operate radically, removing all rectal pathology, and above all things, give your patient the proper daily dressings post-operatively, and your relief will not only be complete but your cure permanent, and, best of all, your patient will be most grateful to you for your service.

Commerce Bldg.

Clinical Experiences With Evaporated Milk

(Concluded from page 86)

13. It cannot be employed when it is desirable to entirely eliminate fat.

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Sounding the Fallopian Tubes

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My motives for presenting this method of establishing the patency of the Fallopian Tubes are two. First, to ask the men who are actively engaged in Gynecologic Surgery to consider this method in their work, and help to establish its surgical truth and value. The second motive, which to me seems more serviceable and life-saving, because of the far-reaching menace in the methods usually involved, is to condemn, with force and emphasis, the "Gas Tank" procedures of some of our colleagues.—Think of it! men who have not given serious thought to the matter, and in their earnest desire to serve their patients, placing young women on the table, in the office perhaps, and forcing a current of gas through the cavity of the uterus, through the fallopian tubes, and out into the abdominal cavity: carrying with it, most surely, a plug of mucus, and more likely in most cases, pus, or other product of pelvic infection.

Gynecology means, not ablation or distortion of organs, conservation of the procreative function of womanhood. Years ago, Lawson Tait and Joseph Price gave to the profession the late pathology of the tubes and ovaries, with a recognition of ravages beyond repair, and establishing the justice of complete removal of organs in which function was abolished, and which also, being foci of infection, were a menace to the economy.

The "group" of cases in which the procedure to be described is indicated is a very familiar one. The pelvis that characterizes this group is distinctive and real. That it offers possibilities for surgical relief, I believe can be established. It is most often a sequel to confinement of primiparae, but may occur later in the child-bearing period. As a sequence to mild postpartum infection, it resembles in pathology, and in results, sequelae of the exanthemata in early girlhood, described so vividly by Lawson Tait; the difference being that on the one hand we have a hope of clearance through the marital relation, and on the other hand this hope has been dispelled.

The patient comes with a chief complaint of "pain," right-sided pain, as a rule; and pain, mark you! is the distress signal of pathologic foci. We get the history of a "labor," several years ago, with no distinctive feature save a "chill" within the limits of the first week of the puerperium. This chill, followed by fever for several hours, causes no alarm, and the convalescence, in other respects, seems perfectly normal. The mother, after the usual "rest in bed," which is never long enough, will resume her care of the household, and, as a rule, will nurse her babe, throughout the allotted time. The menses reappear, but the rhythm is broken, the interval being either too short or too long, with some discomfort amounting to pain during the flow, which is either too scant or too free, while a moderate leukorrhea just after the menstrual epoch is the rule. In a general way the health is fairly good, and yet not up to normal. The appetite is fitful, and the food is not digested well, thus bringing the usual sequence of constipation and loss of weight. The years go by, with no conceptions, while blended with the pain and the clinical picture here portrayed, and in a subconscious way perhaps, is a wonder at such a break in the cycle of normal marital relations.

Now let us consider the pain, with its three distinct-

tive points, and their meaning; and that we may get a clear conception of conditions, we will picture just what happened at the time of confinement. The "chill" was the culmination of a mild infection, for nothing else would cause an explosion of this type; an invasion through just a break, perhaps, in the mucous membrane of the outlet, or as likely, at the site of placental attachment. The initial flame traversed the fallopian tubes and started a conflagration of intrapelvic cellular structures which spent itself and stopped just short of pus possibilities, but not before singeing the delicate fimbriae of the tubes and sealing them to the surface of each ovary. Thus function is abolished, for the fimbriae, save when in spasmodic clasp of the ovary, should "float free like a fish's fins in water," and two pain points established by distorted anatomic conditions.

Being a neighboring structure, cushioned in similar cellular tissues, and vitalized by communicating circulatory fluids, the appendix is caught in the conflagration, just like the branches of a neighboring tree when a house is burned. Like the fimbriae of the tubes, this "little assassin," with its meso-attachment, is devitalized just to the point of permanent injury, leaving, perhaps, fixation of its base to the head of the cecum with lessening of its lumen quite sufficient to hold any harbored enterolith, or abolish any possible function with which it may be accredited; and giving us the third pain point of so much value in the classic group of physical signs distinctive of this pathology.

Therefore, our physical examination gives us tenderness per vaginam—to the right and to the left of the uterus—while this organ swings free and in a normal position. From above, deep pressure just above the left ovary gives pain, though it is not always marked; while on the right we find the usual blend confirming the feel from below of a tender ovary, and also the reflex epigastric discomfort ever coincident with involvement of the appendix.

In addition to the three pain points the importance of which I wish to emphasize, the patient will give a history of pelvic discomfort when walking, most marked when coming down a stairway, or stepping off a curb; and her graphic account of a "pulling sensation" when lying down, and especially when lying on the left side, the fixation seeming to be in the right lower quadrant, and of such severity as to have prevented her lying on the side for years, and also to prevent sleep, is not only a constant feature in the clinical history just portrayed, but confirmatory of the existing pathology.

Today our chief advances lie in early recognition, and in preventive measures. This condition, the result of infection, will not clear up, time only emphasizing the agglutination of structures, and perpetuating the abolition of function. Therefore it only remains to suggest a method promising to relieve symptoms, and restore function: this promise comes, I believe, through surgery, and is made possible only by the perfect toilet and precise technic of today.

The first case in which the tubes were sounded in this manner was in 1917, the case being a typical one, in every way, for the adoption of such a measure.

The patient was a young woman in the twenties, who came to me with a chief complaint of painful menstruation, with constant, and marked pain, in the right side. Being unmarried, and a virgin, with no history

accounting for the pain, save a severe attack of measles in early girlhood, she was told that she was still the victim of this infantile disease, and that the appendix and the appendages were the foci.

The patient was of the "ptosis" type, of which the radiograph was confirmatory, showing marked descensus of all viscera, with the right kidney some distance from its home in the flank. This, however, being a congenital rover, its fixation was not advised.

After the usual preparation for an abdominal section, the foci may be sought through either a free right rectus, or a median incision; preferably median, unless the patient be a thin subject with a shallow pelvis. The appendix is sought and removed, with the freeing of any bands that may favor normal rotation of the cecum. In this young woman, the victim of measles in childhood, while not actively inflamed, the lumen of this "little assassin" was lessened, with some fixation, through a "webbed" mesoappendix to the head of the cecum, in which normal rotation was restricted by inflammatory bands.

At this juncture the head should be lowered, as free exposure facilitates both investigation and handling of the appendages. Then with the uterine fundus as a starting point, and tracking down to the right and to the left of the pelvis, each fallopian tube is palpated to its limit and each, in turn, with its adjacent ovary brought into view. The fimbriae, if welded to the surface of the ovary, are gently freed, entire, and with very gentle manipulation normal conditions are restored to this delicate fringed extremity. In this first young woman, on the left conditions were fairly normal, with fimbriae floating free; but on the right, and confirming the feel of former examination, the fimbriae did not float free, but were much congested and agglutinated to the surface of the ovary. If pain during menstruation has been

marked, suggesting obstruction to normal currents through the fallopian tubes, each fringed extremity is carefully surrounded by gauze, the ostium abdominal exposed, and a sterilized filiform bougie passed through the lumen of the tube to the limit of the uterine cavity, thus freeing any possible occlusion, and establishing its patency. Finally, after careful restoration of the appendages to their "home" in the pelvis, the patient is lowered, and a half-pint of normal saline solution introduced into the cavity just before closure of the abdominal incision. This last step is important, the solution assuring that the fimbriae float free, for just a little while, until edges are slightly seared and do not become again agglutinated to the surface of the ovary.

Closure in these cases is effected by interrupted, through-and-through silkworm-gut sutures, with a running number two plain catgut in the peritoneum, the writer deeming this more safe in the prevention of subsequent adhesions to the abdominal wall.

Post-operative history and results in this, and in all of the cases of this procedure, have been uneventful and gratifying; pulse and temperature remaining practically normal throughout, with really no pain as a feature; both in those resulting from a post-partum infection, and those following in the wake of one of the exanthemata in childhood days. The pain points have disappeared, and the patients walk, and lie on either side, with comfort. The appetite has returned, and digestion is good, with resultant gain in weight. Of prime importance is the fact that menstruation has resumed its normal cycle without discomfort. To me, this pathology and its removal are of much interest and importance, and I firmly believe that its study and development will contribute much that is of value to the relief of right-sided pain, and of sterility in young women.

No. 308 Masonic Temple.

A New Method of Reducing Hip Joint Dislocations

A. GROVES, M. D.

Fergus, Ontario

In the old days the reduction of dislocation of the hip joint was usually attempted by forcible extension by means of pulleys. The method was wholly unscientific and too often ended in failure. The first great advance was made by Bigelow, who studied the condition existing when the head of the femur was forced from the acetabulum, and from his studies devised what has come to be known as the Bigelow method of reducing hip joint dislocations. The scientific methods introduced by Bigelow were a great advance over the old way which depended almost wholly on force, blindly applied.

But the Bigelow method, depending as it does on complicated movements which vary with every form of dislocation and where changes in direction must be made at the exactly proper moment if success is to be obtained, very often fails, and it was on account of such a failure the method I am about to describe was devised.

In the year 1902 I was asked to see a case of hip joint dislocation where two highly competent men had failed to replace the dislocated head of the femur after most persistent efforts. It appeared that the method used was defective. On laying the skeleton on its side with the bones in normal position it will be observed that the os innominatum presents somewhat the appearance of a flattened pyramid the head of the femur being the cap stone. Now if the cap stone of a pyramid

had fallen off an engineer would replace it by setting up a tripod with a pulley over the centre of the pyramid. By passing a rope over this pulley and attaching one end of it to the stone, traction on the rope would inevitably bring the stone back to its proper position. In whatever direction the bone is displaced there is a direct passage way through the soft parts from the head of the femur to the acetabulum and this is kept open by the head and neck of the bone. The problem of reducing the dislocation, then, is solved by drawing the head of the bone back to its normal position through the open passage way made when it was dislocated and this is the line of least resistance.

To do this I place the patient on a mattress on the floor lying on the uninjured side. An anaesthetic having been given to the point of complete relaxation, an assistant stands in a stooping position behind the patient having a roller towel over his shoulder and around the patient's dislocated thigh as close as possible to the perineum. He places both hands on the crest of the ileum. The surgeon grasps the patient's knee with one hand and the ankle with the other flexing the leg at a right angle to the thigh and if necessary flexing the thigh also. The assistant now presses firmly down on the pelvis with his hands and at the same time makes slow steady traction by means of the towel, the pull on the head of the femur being in the direction of the straight

line produced upward through the two acetabula. The surgeon holding the knee and ankle, uses the femur as a lever having the towel for a fulcrum, and he controls accurately the movement of the head as it is drawn back to its place. In this, the first case in which this method was used, reduction was effected with startling ease and rapidity. It is to be noticed that the method above described is simplicity itself. It does not matter in what direction the dislocation has taken place the principle to be followed is the same, that is, traction must always be made in the direction of a straight line produced upward through the acetabulum. It is a matter of no importance to the engineer what the position of the fallen cap stone may be, traction in a perpendicular direction through the centre of the pyramid will certainly replace the stone and the head of the bone will be replaced with equal certainty. It may also be pointed out that by the above method no additional injury is done to the tissues, the sciatic nerve is never hooked around the neck of the bone, and one dislocation is never accidentally changed into another. Up to the present time this method has been used four times and the result in each case has been perfectly satisfactory.

Correspondence

On Fee Splitting

To the Editor of the MEDICAL TIMES:

I have been reading Doctor Pedersen's articles with interest. It may help a bit to give a few of my experiences along this line, for I believe the time is here when the profession should make certain changes in its ethical code the better to meet present day conditions.

Fee splitting has been a much argued question with considerable to be said on both sides.

In 1912 when I took over the Hill ride I was taken over the mountain and introduced to the surgeons in charge of a small private hospital. Later when I sent in the first operative patient we had a very frank talk on the question of fee splitting. The stand that the owners of the hospital took was I feel sound and quite right. They said that it did not seem to them a fair proposition for them to accept patients from the physicians in practice like myself and not turn back to them a certain percentage of the money paid by their patients, to the hospital and the operating staff. They wished all who referred patients to them to feel that each was an active member in the company and as such duly eligible to share pro rata in the returns.

I told them that as a member of the New York State Medical Society I could not accept such an offer without violating the society's code of ethics. I told them also that whenever I had a patient requiring surgical or special hospital treatment I wished to have the patient choose for himself or have the family select the consultant and the hospital. It was to be my aim to tell my patients what I believed necessary as to whom and where they might go to get the required attention and if they had any preference conform to it. This stand met their approval except that they said I was going to give them more than they felt that they deserved. At least they hoped I would feel free to use their hospital for any medical cases that I had which required hospital care, with the privilege of looking after such patients myself. They said that while their cases were largely surgical they hoped that there might always be a bed for such a patient and that I could feel free to use it. During my five years in the hills quite a number of my surgical patients chose to go to the private hospital. A few I am sure paid little if anything in the nature of fees; others paid well. My "cut" would not have been big had all my cases gone there and I had accepted it. My predecessors in the practice had sent all the cases they could to that hospital. I found that a number of my patients seemed surprised and pleased when I gave them their choice. My relations with the heads of the hospital were always very pleasant even after they knew that I had been granted the full privilege of the general city hospital.

It was nearly two years before I came to know "Dr. Ike" well. As a surgeon he was I believe one of the best in the State; he had that little extra flair or talent that put him beyond the average men. He asked me one day how I had

come to call him in the first place. I told him the patient had wished it. "Why don't you tell them whom to call?" he asked me. I told him I didn't intend to; that I told them I wished to have a surgeon on the case and let them name the man if they wished. He could be blunt at times and he shot at me: "Don't R's place give you a divy on all the cases you send there?" I told him of my talk with the other people. He mulled it over a few minutes and then he said: "Hell, man, I wish we all were expected to give you General Practitioners a certain percentage of the fees that we receive from patients that you send to us. It has never seemed right to me that I should get so much more than you do. Godfrey, if I had to dig out all the facts and get at my own diagnosis it would take as much time as half the operations. You chaps that refer your cases to me generally do that all for me. I have always found you fellows that are doing general practice in the smaller places are mighty good diagnosticians. None of you but what are willing to take the time to tell me any personal idiosyncrasy of the patient to help in getting a good result. The damned part of it is we surgeons get to thinking it is our superior right and take it as a matter of course. Every time I get a check from such a patient I feel mean because it is all coming to me. And yet if you had come in here and said, Dr. Ike, you operated on a patient that I referred to you today: She can pay a good fee and I wish you would make allowance for a 20% cut for me, I would have told you to get to Hell out of the office. You don't have to be a procurer for any one of us to be entitled to a certain sum for referring patients to us. I go to a business men's dinner and I hear a lot of talk about salesmanship and how the procurer of business should always be entitled to his agent's fee, so by Godfrey, if you get me a good job all ready to go to work on why shouldn't I be made to give you a fair agent's price for it? Then, too, we must not advertise. Hell, look at the ———; you know and I know how they advertised, and I'll gamble paid well for it until they got where they were news. The same old thing. They got theirs without getting caught, hence it is all right. Now tell me why I shouldn't give you what I know you deserve as the agent referring work to me."

I know there is quite some fee splitting all over. I know specialists that would gladly slip me a percentage of referred business. I know there are some who do it because those referring cases expect it and try to throw all their work to the specialist who does slip them a part of the fee. There are plenty who play the game as we are supposed to according to the ethics of the profession. In places this is a most damned uncomfortable sort of game to play. The ones to whom you turn for special work or consultation soon learn that you are playing no favorites—are boosting for no man. They know that the referred work will come to them without any exertion. The result is not too pleasant often, for the only seeming reason for personal contact has to do apparently with an end towards more business, so its to Hell with the one who tries to play the game according to the ethical regulations of the N. Y. State Medical Society, for those regulations call for impartiality in the choice of specialists and an unbiased, honest opinion as to whom is available and suited for the job. It is not at all the rule of New York City business life, and after all we are all influenced by the general trend of business methods. Of course, it will become a generally accepted working basis in this sector before many years. Personally, I think it would be much wiser for the Medical Society leaders to cut a lot of drivel and get down to a real working basis along the lines of agent and principal, or whatever they wish to call it. It will have a farther reaching influence than the putting of that side of our work on an understandable open salesmanship agreement. It will increase the earning capacity of those who must take on general practice in the smaller places. State medicine has many evils but so has the present method of fee allotment. The ranks of specialism are getting crowded and the number of G. Ps. willing to stick by the hard country rides is each year getting less. Pretty soon some one is going to make much noise over the poor neglected country people, and a law is going to be enacted that will be very close to State medicine, if the thing doesn't swing all the way over as it did with the Volstead law. As a law I suspect it will look real pretty, but it will too likely resemble the ineffectiveness of our present liquor law with the reward of riches going to those who break the law. In so far as ethical misconduct injures a resident of this section in the eyes of the County Society, the present code might as well be junked in so far as it governs certain aspects of our professional relations with one another. Dr. Pedersen has given a very clear résumé of the subject as it affects one at the top of the profession. I contribute my little say from one that holds contact with the top only by referring patients.

Yours sincerely,

NAT. P. BROOKS

Croton-on-Hudson, N. Y., January 28, 1929.

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To Promote Temperance

The bill recently introduced in the House by Representative Loring M. Black, Jr., of New York, to legalize 2.75 per cent beer and 13 per cent wine, is still, the Congressman informs us, in Committee. Under the terms of this bill the manufacture, sale and purchase of whiskey and other hard liquors, except for medicinal purposes, would be prohibited. Prescriptions for medicinal liquors would be filled by dealers licensed to do such business. Medicinal liquors could be sent through the mails under the Black plan and delivered by postmasters upon the presentation of a prescription and payment of the cost of transportation. Beer and light wines could not be shipped into States having prohibitory laws, except in transit to States that legalized these beverages.

"This bill," says Mr. Black, "would repeal the present insulting provision of the law which says in effect that the American physician cannot be trusted to have in his possession more than 100 prescription blanks every ninety days. It would deprive Congress of the right to practice medicine and restore it to physicians by repealing the provision which requires a ten-day period to elapse before a physician can give a second prescription for medicinal liquor to the same person."

One of the effects of the bill, Mr. Black asserts, would be to make medicinal liquor available at \$1 a pint, instead of \$2.50 or \$3 a pint, as at present.

His plan, Mr. Black says, would add \$900,000,000 a year to Federal revenues, and would enable Congress to cut down other forms of taxation.

"It would protect the dry states," he declares, "by

providing that nothing contained in the modification act should be construed as impairing in any respect the right of the states to retain their present percentages or to prescribe by statutory enactment at any time in such states a lower percentage of alcoholic content.

"It provides that light wines and beer shall not be drunk on the premises where purchased; also that legalized beverages shall be sold only in bottles, casks or other containers to be prescribed by the Secretary of the Treasury. Sale of the legalized beverages would be limited to the hours between 7 A. M. and 11:50 P. M., with a prohibition against sales or deliveries on Sundays or legal holidays.

"This bill would put teeth in the dry law by abolishing all fines and jail sentences and making penitentiary sentences mandatory for every violation, increasing the penalty for second and third offenses. It would put the bootlegger out of business and make the return of the saloon impossible, because it would make it a penitentiary offense to conduct a saloon."

Autopsies

There is considerable complaint among the hospitals in this city with regard to the difficulty in obtaining autopsies, even in the case of ward patients who have been under careful observation and treatment and where the real cause of death is not clear. This is explained by a growing sentimentality and by suspicion of the medical profession, which is regarded as desiring to satisfy morbid curiosity, rather than to advance the cause of science.

This attitude on the part of the laity is medieval, dating back to the time of Vesalius, and should be modernized.

We recall the old days at Bellevue, when it was difficult to obtain autopsies unless the house surgeon actually refused to sign the death certificate and referred the case to the coroner. Even then political influence often interfered, sometimes in cases of criminal abortion.

The writer was so fortunate as to be associated with Professor Welch, now the dean of the profession, and later was his unworthy successor as pathologist to the Woman's Hospital. In requesting an examination of the body of the deceased from the mourning relatives we never used the word "autopsy," but argued with them on the importance of re-opening the abdominal wound after laparotomy without undue mutilation of the corpse, an evasion it is true, but even a partial examination was better than none at all.

After a year in Germany, where patients, both living and dead, were absolutely under the control of their doctors, the prejudice against autopsies seemed unwarranted. Early in the war the writer had the great privilege of being associated with the skilled pathologist of the Mayo clinic and had daily opportunities to see his work. He never expects again to witness such careful and exhaustive examinations. Even in the most obscure and complicated cases, when he had finished his scrutiny of a body the cause of death was established beyond a doubt.

We never must forget that the patient and his, or her, relatives have legal rights which can not be disregarded without bringing a hospital and its physicians into grave disrepute. But, it would seem that a little more tact on the part of medical men, even a refusal to sign the death certificate, would overcome the objections, now so general, about examining the bodies of the dead. Science has been ever opposed to superstition.—H.C.C.

Mercurochrome—10 Soluble

Hitherto we have associated only the mystic number 220 with mercurochrome (Mercurochrome—220 Soluble), but since its appearance in the Woolworth five and ten-cent stores in at least three States—New York, New Jersey and Pennsylvania—we suggest that it be labeled hereafter Mercurochrome—10 Soluble.

Chemical Warfare Mortality and Peace.

The conservation of human life is, of course, a deep, indeed fundamental concern of medicine and medical men. Therefore, the medical profession may be said to be especially interested in matters bearing upon peace and war.

The opponents of chemical warfare denounce it as "cruel, repulsive and an unfair use of science." That it will be part of the warfare of the future seems to us inevitable, but we do not agree with those who, on this account, insist that "we can either prepare to be annihilated in the next war, or else we must bar all war forever."

Human nature being what it is, it is our guess that chemical warfare may turn out to be a mighty factor in the cause of peace. Our thought is, not that mankind will be annihilated, but that the destruction of life will be such that men will be brought to their senses.

We suspect that they will never be brought to their senses as regards warfare except through catastrophic happenings such as might be occasioned by chemical warfare.

It would be interesting to live in a time when a proponent even of wars of defense would be regarded as a sort of super-Bolshevik.

We do not despair at the prospect of chemical warfare. There is some hope to be deduced from it. Our chief misgivings have to do with the fear that it will not be thoroughly enough applied really to effect beneficent results.

The "Parent Church" Makes Its Bow.

An organization known as the Christian Science Parent Church is busily engaged in an endeavor to correct the abuses "as now taught and practiced by the organization known as the 'Mother Church' in Boston, Massachusetts." Its literature paints in a lurid light the dire effects of "Christian Science practice," denies that Mrs. Eddy never employed physicians, and affirms that she advised active cooperation with the medical profession. What this outfit thinks of the Boston crowd still in control of the "Mother Church" we think it advisable not even to quote.

But the old effrontery is still there. "Intelligent cooperation with medical practice, in which is centered the hope and faith of the large majority of humanity, is not a fusion of methods but the humane addition of metaphysical treatment that in no way intrudes upon nor interferes with medical procedure."

If the Christian Science "healers" represented a body of licensed practitioners of medicine claiming to enjoy some system which they were anxious to share with their professional colleagues—which was the proper attitude of so-called homeopathic physicians when the Old School was antagonistic—all would be well. The homeopathic physician took the position that in addition to the equipment of the Old School man he possessed special knowledge in the field of therapeutics. But here was a different situation altogether. The Christian Science practitioner means nothing to us; un-

der a Medical Practice Act with teeth in it he would be given short shrift.

Nevertheless, this reform party deserves consideration, and they may yet become fully civilized, medically speaking.

It seems logical enough, as charged by these reformers, that the Boston system should have become little more than a commercialized faith cure. Its founders were thrifty from the beginning and they found in the most fitting of places—New England—a religion for the thrifty. The real basis of this religion has always been economic. Nothing less than genius conceived a religion, so called, that makes it unnecessary to pay for medical attention.

This line of argument may be objected to on the ground that the Scottish people, notable for thrift, have not been fascinated by the new faith; but it is to be remembered that the natives of Scotland, through second to none in their thriftiness, are a highly intelligent race; their shrewdness saves them infallibly from bad bargains and they know that there is a sounder and a greater profit in good medical attendance than is to be had from the services of any healer.

The almost complete commercialization of such a cheap faith cure was, therefore, from the beginning, inevitable.

If the Christian Science Publication Committee desires to comment on this editorial our columns are open to it, at the usual advertising rates.

Unapplied Preventive Measures.

Sydenstricker, of the United States Public Health Service, recently remarked that public health has as yet barely touched the task of preventing the conditions which manifest themselves in physical and mental impairments, in inefficiency and illness, and in postponable death. "Plagues and pestilences have been diminished, infant and child mortality from infections and intestinal disorders has been lessened, and healthful living is being established more and more firmly as a popular ideal, but aside from these the prevalence of disease remains as an outstanding problem as yet unsolved."

There is one idea in the domain of preventive medicine which, if it could be sold to all employers of labor, would go farther than anything we can think of toward a reduction in the incidence of the upper respiratory infections, and that is the immediate ordering to their homes of all employees showing definite symptoms of colds and not permitting their return until entirely recovered.

It is altogether likely that even at the present time the average employer realizes that such a policy would reduce the time lost by his staff in the course of a year by something like 25 per cent, provided universal adoption of such strategy were to go into effect. In other words the idea is pretty nearly sold to him. It remains only to secure concerted action in some way.

Acrostic

R

use—

Reason in all you do—

Enliven your mind, try the cheery hue,

Laugh at the germ or you'll get two

And while relaxing

'Xamine yourself—you may find the cue?

—PEGGY DEAL.